University of Pittsburgh

School of Medicine

**CURRICULUM VITAE**

**BIOGRAPHICAL**

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| **Name:** | Shyam Visweswaran | **Business Address:** | The Offices at Baum  5607 Baum Blvd., Suite 523  Pittsburgh, PA 15206 |
| **Email:** | shv3@pitt.edu |
| **Web:** | http://www.thevislab.com/ | **Business Phone:** | (412) 648-7119 |

**EDUCATION and TRAINING**

**GRADUATE**

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| **Dates Attended** | **Name and Location of Institution** | **Degree Received and Year** | **Major Subject** |
| 07/1983 – 03/1989 | Jawaharlal Institute of Post-Graduate Medical Education and Research (JIPMER), Puducherry, India | M.B.,B.S., 1989  (MD Equivalent) | Medicine and Surgery |

**POSTGRADUATE**

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| **Dates Attended** | **Name and Location of Institution** | **Degree Received or Position** | **Major Subject** |
| 09/1989 – 06/1991 | Jawaharlal Institute of Post-Graduate Medical Education and Research (JIPMER), Puducherry, India | Junior Resident | Anesthesiology |
| 08/1991 – 06/1996 | University of Illinois at Urbana-Champaign, Urbana, IL | M.S., 1996 | Physiology and Biophysics |
| 07/1996 – 06/1997 | St. Luke's - Roosevelt Medical Center, New York, NY | PGY1 | Medicine  Michael Greico, MD – program director |
| 07/1997 – 06/1999 | Boston University, Boston, MA | PGY2 – PGY4 | Neurology  Robert G. Feldman, MD – program director |
| 07/2000 – 06/2001 | ArsDigita University, Cambridge, MA | Post-baccalaureate program | Computer Science  Shai Simonson, PhD – program director |
| 08/2001 – 09/2007 | University of Pittsburgh, Pittsburgh, PA | Ph.D., 2007 | Intelligent Systems (Artificial intelligence) (Charles P. Friedman, PhD – program director) |

**APPOINTMENTS and POSITIONS**

**ACADEMIC**

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| **Years Inclusive** | **Name and Location of Institution** | **Rank/Title** |
| 08/1991 – 06/1996 | University of Illinois at Urbana-Champaign, Urbana, IL | Research and teaching assistant in Physiology |
| 07/1999 – 06/2000 | Boston University, Boston, MA | Chief Resident in Neurology |
| 08/2001 – 10/2006 | University of Pittsburgh School of Medicine  Center for Biomedical Informatics and the Intelligent Systems Program | Fellow in Biomedical Informatics |
| 11/2006 – 08/2007 | University of Pittsburgh School of Medicine  Department of Biomedical Informatics | Visiting Assistant Professor |
| 09/2007 – 10/2015 | University of Pittsburgh School of Medicine  Department of Biomedical Informatics | Assistant Professor |
| 01/2008 – 10/2015 | University of Pittsburgh School of Computing and Information, Intelligent Systems Program | Assistant Professor (secondary appointment) |
| 06/2010 – 10/2015 | University of Pittsburgh Clinical and Translational Science Institute | Assistant Professor (secondary appointment) |
| 11/2015 – 02/2023 | University of Pittsburgh School of Medicine  Department of Biomedical Informatics | Associate Professor with Tenure |
| 11/2015 – present | University of Pittsburgh School of Computing and Information, Intelligent Systems Program | Associate Professor (secondary appointment) |
| 11/2015 – present | University of Pittsburgh Clinical and Translational Science Institute | Associate Professor (secondary appointment) |
| 03/2023 – present | University of Pittsburgh School of Medicine  Department of Biomedical Informatics | Professor with Tenure |
| 03/2023 – present | University of Pittsburgh School of Medicine  Department of Biomedical Informatics | Vice Chair of Clinical Informatics |

**NON-ACADEMIC**

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| **Years Inclusive** | **Name and Location of Institution** | **Rank/Title** |
| 06/2008 – 05/2018 | University of Pittsburgh School of Medicine  Medical Scientist Training Program (MSTP) | Biomedical Informatics Program Director |
| 06/2008 – 05/2018 | Graduate Training Program in Intelligent Systems, University of Pittsburgh School of Computing and Information | Biomedical Informatics Representative |
| 05/2009 – 12/2016 | University of Pittsburgh School of Medicine  Biomedical Informatics Training Program | Associate Director |
| 05/2009 – 12/2016 | Curriculum Committee, University of Pittsburgh School of Medicine Biomedical Informatics Training Program | Chair |
| 04/2014 – 12/2015 | RoboClinics, Inc., Fernley, NV | Chief Medical Advisor |
| 07/2015 – 06/2016 | University of Pittsburgh,  Clinical and Translational Science Institute | Co-Director, Biomedical Informatics Core |
| 07/2016 – present | University of Pittsburgh,  Clinical and Translational Science Institute | Director, Biomedical Informatics Core |
| 07/2016 – 11/2022 | Center for Clinical Research Informatics (CCRI), Department of Biomedical Informatics | Director |
| 01/2017 – present | Institute for Clinical Research Education (ICRE), University of Pittsburgh School of Medicine | Biomedical Informatics Representative |
| 10/2018 – present | Kvatchii, Ltd., UK | Co-founder |
| 04/2021 – present | READE.ai, Inc., USA | Co-founder & Chief Scientific Officer |
| 03/2023 – present | Center for Clinical Artificial Intelligence (CCAI) | Director |
| 08/2023 – present | ThetaRho, Inc., USA | Chief Medical Officer |
| 09/2023 – present | CarePoint Health Advisory Board | Member |

**CERTIFICATION and LICENSURE**

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| **SPECIALTY CERTIFICATION** |  |
| **Certifying Board** | **Date** |
| Pending; Board Eligible in Psychiatry and Neurology |  |
| **MEDICAL or OTHER PROFESSIONAL LICENSURE** |  |
| **Licensing Board/State** | **Date** |
| Educational Commission for Foreign Medical Graduates | 01/28/1992 |
| Federation Licensing Examination (FLEX) | 06/15/1993 |
| United States Medical Licensing Examination (USMLE) Step 1 | 06/14/1995 |
| United States Medical Licensing Examination (USMLE) Step 2 | 08/30/1995 |

**MEMBERSHIPS in PROFESSIONAL and SCIENTIFIC SOCIETIES**

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| **Organization** | **Year** |
| American Academy of Neurology (AAN) | 1997 – 2001, 2018 – present |
| American Medical Informatics Association (AMIA) | 2001 – present |
| Association for the Advancement of Artificial Intelligence (AAAI) | 2001 – present |
| Association of Computing Machinery (ACM) | 2015 – present |
| American Association for the Advancement of Science (AAAS) | 2016 – present |
| American Clinical Neurophysiology Society (ACNS) | 2020 – present |
| Indian Association for Medical Informatics (IAMI) | 2022 – present |
| Australasian Institute of Digital Health (AIDH) | 2022 – present |
| Institute of Electrical and Electronics Engineers (IEEE) | 2023 – present |
| IEEE Engineering in Medicine and Biology Society (EMBS) | 2023 – present |
| American Heart Association (AHA) | 2023 – present |
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| **Fellowship at Organization** |  |
| Fellow of the American Medical Informatics Association (FAMIA) | 2021 – present |
| Fellow of the Australasian Institute of Digital Health (FAIDH) | 2022 – present |
| Fellow of the American College of Medical Informatics (ACMI) | 2023 – present |

**HONORS**

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| **Title of Award** | **Year** |
| National Science Talent Search Scholarship, Government of India | 1981 – 1991 |
| Excellent Teacher, School of Life Sciences, University of Illinois at Champaign-Urbana, Urbana, IL | 1995 – 1996 |
| Chief Resident, Department of Neurology, Boston University, Boston, MA | 2000 – 2001 |
| National Library of Medicine Fellow in Biomedical Informatics, University of Pittsburgh Medical School, Pittsburgh, PA | 2001 – 2006 |
| Distinguished Paper Award, American Medical Informatics Association (AMIA) Annual Symposium, Washington, DC (for a co-authored paper) | 2005 |
| Third place, American Medical Informatics Association (AMIA) Annual Symposium Student Paper Competition, Washington, DC (for a first-authored paper) | 2005 |
| Finalist for the Best Paper Award, American Medical Informatics Association (AMIA) Annual Symposium, Chicago, IL (for a co-authored paper) | 2007 |
| Homer R. Warner Research Award, American Medical Informatics Association (AMIA) Annual Symposium, Washington, DC (for a co-authored paper) | 2010 |
| Marco Ramoni Award, AMIA Summit on Translational Bioinformatics, San Francisco, CA (for a co-authored paper) | 2011 |
| Distinguished Paper Award, AMIA Summit on Translational Bioinformatics, San Francisco, CA (for a co-authored paper) | 2012 |
| Distinguished Paper Award, AMIA Summit on Translational Bioinformatics, San Francisco, CA (for a co-authored paper) | 2013 |
| Inaugural Hattie Becich Award for Best Teacher, Department of Biomedical Informatics, University of Pittsburgh Medical School, Pittsburgh, PA | 2014 |
| Martin Epstein Award and First place, American Medical Informatics Association (AMIA) Annual Symposium Student Paper Competition, Washington, DC (for a last-authored paper) | 2015 |
| First place, AMIA Joint Summits Clinical Research Informatics Student Paper Competition, San Francisco, CA (for a co-authored paper) | 2017 |
| First place, AMIA Informatics Summit Clinical Research Informatics Student Paper Competition, San Francisco, CA (for a co-authored paper) | 2018 |
| Outstanding Paper Award at the Science of Team Science (SciTS) Conference, Galveston, TX (for a co-authored paper) | 2018 |
| Allen Humphrey Excellence in Mentoring Award, University of Pittsburgh Medical School, Pittsburgh, PA (presented to a Deans Summer Research (DSRP) mentor who demonstrated exemplary care and commitment in all aspects of DSRP student mentoring) | 2018 |
| Elected as Member of i2b2 tranSMART Foundation, Boston, MA | 2018 |
| Finalist for the Distinguished Paper Award, American Medical Informatics Association (AMIA) Annual Symposium, San Francisco, CA (for a last-authored paper) | 2018 |
| Featured presentation at the Machine Learning & Artificial Intelligence Application in Translational Science: Un-Meeting by the Center for Leading Innovation & Collaboration, Rochester, NY | 2019 |
| Medical Student Research Mentoring Merit Award University of Pittsburgh Medical School, Pittsburgh, PA (presented to a Longitudinal Research Project (LRP) mentor of a graduating Pitt Med student in recognition for outstanding mentoring over the course of the LRP) | 2021 |
| Elected as Fellow of the American Medical Informatics Association (FAMIA) | 2021 |
| Elected as Fellow of the Australasian Institute of Digital Health (FAIDH) | 2022 |
| Elected as Fellow of the American College of Medical Informatics (FACMI) | 2023 |
| Member of the National Academies of Sciences, Engineering, and Medicine’s (NASEM) ad hoc committee to assess the use of the social constructs of race and ethnicity in biomedical research | 2023 |

**PUBLICATIONS**

1. ORIGINAL PEER REVIEWED ARTICLES

**Original Peer Reviewed Journal Articles**

1. Bartling WC, Schleyer TK, **Visweswaran S**. Retrieval and classification of dental research articles. *Advances in Dental Research.* 2003 Dec; 17:115-20. PMID: 15126221.
2. McEllistrem CM, Noller AC, **Visweswaran S**, Adams JM, Harrison LH. Serotype 14 variants of the France 9V-3 Clone from Baltimore, Maryland can be differentiated by the cpsB gene. *Journal of Clinical Microbiology.* 2004 Jan; 42(1):250-6. PMID: 14715761; PMCID: PMC321660.
3. McEllistrem MC, Adams JM, **Visweswaran S**, Khan S. Detection of very-high-level penicillin resistant variants of the Tennessee 23F-4 clone via single and serial transformations with four serotype 19A international pneumococcal clones. *Microbial Drug Resistance.* 2005 Fall; 11(3):271-8. PMID: 16201931.
4. Wong AI, Stephens SB, Aspinall, MB, **Visweswaran S**, Hanlon JT, Handler SM. Assessing the quality of prescribing and monitoring erythropoiesis stimulating agents in the nursing home setting. *Journal of the American Medical Directors*. 2009 Jul; 10(6):436-9. PMID: 19560723; PMCID: PMC2846620.
5. Lustgarten JL, **Visweswaran S**, Bowser RP, Hogan WR, Gopalakrishnan V. Knowledge-based variable selection for rule learning on proteomic data. *BMC Bioinformatics*. 2009 Sep 17; 10 Suppl 9:S16. PMID: 19761570; PMCID: PMC2745687.
6. Kalamangalam GP, Morris HH, Mani J, Lachhwani DK, **Visweswaran S**, Bingaman WM. Noninvasive correlates of subdural grid electrographic outcome. *Journal of Clinical Neurophysiology*. 2009 Oct; 26(5):333-41. PMID: 20168131.
7. Gopalakrishnan V, Lustgarten JL, **Visweswaran S**, Cooper GF. Bayesian rule learning for biomedical data mining. *Bioinformatics*. 2010 Mar 1; 26(5):668-75. PMID: 20080512; PMCID: PMC2852212.
8. **Visweswaran S**, Angus DC, Hsieh M, Weissfeld L, Yealy D, Cooper GF. Learning patient-specific predictive models from clinical data. *Journal of Biomedical Informatics.* 2010 Oct; 43(5):669-85. PMID: 20450985; PMCID: PMC2933959.
9. Jiang X, Barmada MM, **Visweswaran S**. Identifying genetic Interactions in genome-wide data using Bayesian networks. *Genetic Epidemiology*. 2010 Sep; 34(6):575-81. PMID: 20568290; PMCID: PMC3931553.
10. **Visweswaran S**, Cooper GF. Learning instance-specific predictive models. *Journal of Machine Learning Research.* 2010 Dec 1; 11:3369−3405. PMID: 25045325; PMCID: PMC4102007.
11. Jiang X, Neapolitan RE, Barmada MM, **Visweswaran S**. Learning genetic epistasis using Bayesian network scoring criteria. *BMC Bioinformatics*. 2011 Mar 31; 12:89. PMID: 21453508; PMCID: PMC3080825.
12. Wei W, **Visweswaran S**, Cooper GF. The application of naive Bayes model averaging to predict Alzheimer’s disease from genome-wide data. *Journal of the American Medical Informatics Association*. 2011 Jul-Aug; 18(4):370-5. PMID: 21672907; PMCID: PMC3128400.[[1]](#footnote-1)
13. Kane-Gill SL, **Visweswaran S**, Saul MI, Wong AI, Penrod L, Handler SM. Computerized detection of adverse drug reactions in the medical intensive care unit. *International Journal of Medical Informatics*. 2011 Aug; 80(8):570-8. PMID: 21621453; PMCID: PMC3139253.
14. Lustgarten JL\*, **Visweswaran S\***, Gopalakrishnan V, Cooper GF. Application of an efficient Bayesian discretization method to biomedical data. *BMC Bioinformatics.* 2011 Jul 28; 12:309. PMID: 21798039; PMCID: PMC3162539. \*Shared first authorship.
15. Mowery D, Weibe J, **Visweswaran S**, Harkema H, Chapman WW. Building an automated SOAP classifier for emergency department reports. *Journal of Biomedical Informatics*. 2012 Feb; 45(1):71-81. PMID: 21925286; PMCID: PMC3267853.
16. Bhavnani SK, Bellala G, Victor S, Bassler K, **Visweswaran S**. The role of complementary bipartite visual analytical representations in the analysis of SNPs: a case study in ancestral informative markers. *Journal of the American Medical Informatics Association*. 2012 Jun 1; 19(e1):e5-e12. PMID: 22718038; PMCID: PMC3392853.[[2]](#footnote-2)
17. Strobl EV, Eack SM, Swaminathan V, **Visweswaran S**. Predicting the risk of psychosis onset: Advances and prospects. *Early Intervention in Psychiatry*. 2012 Nov;6(4):368-79. PMID: 22776068; PMCID: PMC3470783.
18. Stokes M, **Visweswaran S**. Application of a spatially-weighed Relief algorithm for ranking genetic predictors of disease. *BioData Mining*. 2012 Dec 3; 5(1):20. PMID: 23198930; PMCID: PMC3554553.
19. Hauskrecht M, Batal I, Valko M, **Visweswaran S**, Cooper GF, Clermont G. Outlier detection for patient monitoring and alerting. *Journal of Biomedical Informatics*. 2013 Feb; 46(1):47-55. PMID: 22944172; PMCID: PMC3567774.
20. Kalamangalam GP, Pestana Knight EM, **Visweswaran S**, Gupta A. Noninvasive predictors of subdural grid seizure localization in children with nonlesional focal epilepsy. *Journal of Clinical Neurophysiology*. 2013 Feb; 30(1):45-50. PMID: 23377441.
21. Pineda AL, Tsui FC, **Visweswaran S**, Cooper GF. Detection of patients with influenza syndrome using machine-learning models learned from Emergency Department reports. *Online Journal of Public Health Informatics*. 2013 Apr 4; 5(1):e41. PMCID: PMC3692886.
22. Kimmel C, **Visweswaran S**. An algorithm for network-based gene prioritization that encodes knowledge both in nodes and in links. *PLoS One*. 2013 Nov 19; 8(11):e79564. PMID: 24260251; PMCID: PMC3834271.
23. Stokes ME, Barmada MM, Kamboh MI, **Visweswaran S**. The application of network label propagation to rank biomarkers in genome-wide Alzheimer's data. *BMC Genomics*. 2014 Apr 14; 15(1):282. PMID: 24731236; PMCID: PMC4234455.
24. Aflakparast M, Salimi H, Gerami A, Dubé M-P, **Visweswaran S**, Masoudi-Nejad A. Cuckoo search epistasis: a new method for exploring significant genetic interactions. *Heredity*. 2014 Jun; 112(6):666-74. PMID: 24549111; PMCID: PMC4023449.
25. Aflakparast M, Masoudi-Nejad A, Bozorgmehr JH, **Visweswaran S**. Informative Bayesian Model Selection: a method for identifying interactions in genome-wide data. *Molecular BioSystems*. 2014 Aug 26; 10(10):2654-62. PMID: 25070634.
26. Zaidi AH, Gopalakrishnan V, Kasi PM, Malhotra U, Balasubramanian J, **Visweswaran S**, Zeng X, Sun M, Bergman JJ, Bigbee WL, Jobe BA. Evaluation of a four-protein biomarker panel for detection of esophageal adenocarcinoma. *Cancer*. 2014 Dec 15; 120(24):3902-13. PMID: 25100294; PMCID: PMC4441619.
27. Jordan R, **Visweswaran S**, Gopalakrishnan V. Semi-automated literature mining to identify putative biomarkers of disease from multiple biofluids. *Journal of Clinical Bioinformatics*. 2014 Oct 23; 4:13. PMID: 25379168; PMCID: PMC4215335.
28. Floudas CS, Kamboh MI, Barmada MM, **Visweswaran S**. Identifying genetic interactions associated with late-onset Alzheimer's disease. *BioData Mining*. 2014 Dec 19; 7(1):35. PMID: 25649863; PMCID: PMC4300162.
29. Bhavnani SK, Dang B, Bellala G, Divekar R, **Visweswaran S**, Brasier A, Kurosky A. Unlocking proteomic heterogeneity in complex diseases through visual analytics. *Proteomics*. 2015 Feb 13; 15(8):1405-18. PMID: 25684269; PMCID: PMC4471338.
30. Kimmel C, **Visweswaran S**. KNGP: a network-based gene prioritization algorithm that incorporates multiple sources of knowledge. *American Journal of Bioinformatics and Computational Biology*. 2015 Apr 25; 3(1):1-4. PMID: 31245171; PMCID: PMC6594558.
31. **Visweswaran S**, Ferreira A, Cooper GF. Personalized modeling for prediction with decision-path models. *PLoS One*. 2015 Jun 22; 10(6): e0131022. PMID: 26098570; PMCID: PMC4476684.
32. Ogoe HA, **Visweswaran S**, Lu X, Gopalakrishnan V. Knowledge transfer via classification rules using functional mapping for integrative modeling of gene expression data. *BMC Bioinformatics*. 2015 Jul 23; 16:226. PMID: 26202217; PMCID: PMC4512094.
33. Pineda AL, Ye Y, **Visweswaran S**, Cooper GF, Wagner MM, Tsui FC. Comparison of machine learning classifiers for influenza detection from emergency department free text reports. *Journal of Biomedical Informatics*. 2015 Dec; 58:60-9. PMID: 26385375; PMCID: PMC4684714.
34. Strobl EV, **Visweswaran S**. Markov boundary discovery with ridge regularized linear models. *Journal of Causal Inference*. 2016 Mar; 4(1):31-48. PMID: 27170915; PMCID: PMC4861166.
35. Pineda AL, Ogoe HA, Balasubramanian JB, Escareño CR, **Visweswaran S**, Herman JG, Gopalakrishnan V. On predicting lung cancer subtypes using 'omic' data from tumor and tumor-adjacent histologically-normal tissue. *BMC Cancer*. 2016 Mar 4; 16(1):184. PMID: 26944944; PMCID: PMC4778315.
36. Tenenbaum JD, Avillach P, Benham-Hutchins M, Breitenstein MK, Crowgey EL, Hoffman MA, Jiang X, Madhavan S, Mattison JE, Radhakrishnan N, Ray B, Shin D, **Visweswaran S**, Zhao Z, Freimuth RR. An informatics research agenda to support precision medicine: 7 key areas. *Journal of the American Medical Informatics Association*. 2016 Jul; 23(4):791-5. PMID: 27107452; PMCID: PMC4926738.
37. Hauskrecht M, Batal I, Hong C, Cooper GF, **Visweswaran S**, Clermont G. Outlier-based detection of unusual patient-management actions: an ICU study. *Journal of Biomedical Informatics*. 2016 Dec; 64:211-221. PMID: 27720983; PMCID: PMC5207478.
38. Lustgarten JL, Balasubramanian JB, **Visweswaran S**, Gopalakrishnan V. Learning parsimonious classification rules from gene expression data using Bayesian networks with local structure. *Data*. 2017 Mar; 2(1). PMID: 28331847; PMCID: PMC5358670.
39. Culbertson A, Goel S, Madden M, Safaeinili N, Jackson KL, Carton T, Waitman R, Liu M, Krishnamurthy A, Hall L, Cappella N, **Visweswaran S**, Becich MJ, Applegate R, Bernstam E, Rothman R, Matheny M, Lipori G, Bian J, Hogan W, Bell D, Martin A, Grannis S, Klann J, Sutphen R, O'Hara AB, Kho A. The building blocks of interoperability: a multisite analysis of patient demographic attributes available for matching. *Applied Clinical Informatics*. 2017 Apr 5; 8(2):322-336. PMID: 28378025; PMCID: PMC6241737.
40. Castro SM, Tseytlin E, Medvedeva O, Mitchell K, **Visweswaran S**, Bekhuis T, Jacobson RS. Automated annotation and classification of BI-RADS assessment from radiology reports. *Journal of Biomedical Informatics*. 2017 May; 69:177-187. PMID: 28428140; PMCID: PMC5706448.
41. Tenenbaum JD, Bhuvaneshwar K, Gagliardi JP, Hollis KF, Jia P, Ma L, Nagarajan R, Rakesh G, Subbian V, **Visweswaran S**, Zhao Z, Rozenblit L. Translational bioinformatics in mental health: open access data sources and computational biomarker discovery. *Briefings in Bioinformatics*. 2017 Nov 27; 20(3):842-56. PMID: 29186302; PMCID: PMC6585382.
42. Bhavnani SK, Dang B, Kilaru V, Caro M, **Visweswaran S**, Saade G, Smith AK, Menon R. Methylation differences reveal heterogeneity in preterm pathophysiology: results from bipartite network analyses. *Journal of Perinatal Medicine*. 2018 Jul 26; 46(5):509-521. PMID: 28665803; PMCID: PMC5971156.
43. Strobl EV, **Visweswaran S**, Spirtes PL. Fast causal inference with non-random missingness by test-wise deletion. *International Journal of Data Science and Analytics*. 2018 Aug; 6(1):47-62. PMID:31321289; PMCID: PMC6638553.
44. **Visweswaran S**, Becich MJ, D’Itri VS, Sendro ER, MacFadden D, Anderson NR, Allen KA, Ranganathan D, Murphy SN, Morrato EH, Pincus HA, Toto R, Firestein GS, Nadler LM, Reis SE. Accrual to Clinical Trials (ACT): a Clinical and Translational Science Award Consortium network. *JAMIA Open*. 2018 Oct; 1(2):147-152. PMID: 30474072; PMCID: PMC6241502.
45. Bhavnani SK, **Visweswaran S**, Divekar R, Brasier A. Towards team-centered informatics: accelerating innovation in multidisciplinary scientific teams through visual analytics. *The Journal of Applied Behavioral Science*. 2019 Mar; 55(1):50-72.
46. Strobl E, Zhang K, **Visweswaran S**. Approximate kernel-based conditional independence tests for fast non-parametric causal discovery. *Journal of Causal Inference*. 2019 Mar; 4(1):31-48.
47. Seymour CW, Kennedy J, Wang S, Chang C-CH, Elliot CF, Xu Z, Berry S, Clermont G, Cooper G, Gomez H, Huang DT, Kellum JA, Mi Q, Opal SM, Talisa V, Poll T, **Visweswaran S**, Vodovotz Y, Weiss JC, Yealy DM, Yende S, Angus DC. Derivation, validation, and potential treatment implications of novel clinical phenotypes for sepsis. *JAMA*. 2019 May 28; 321(20):2003-17. PMID: 31104070; PMCID: PMC6537818.
48. All of Us Research Program Investigators\*, Denny JC, Rutter JL, Goldstein DB, Philippakis A, Smoller JW, Jenkins G, Dishman E. The “All of Us” Research Program. *New England Journal of Medicine*. 2019 Aug 15; 381(7):668-76. PMID: 31412182; PMCID: PMC8291101. \*Listed as one of All of Us Principal Investigators.
49. Trivedi G, Dadashzadeh E, Handzel R, Chapman W, **Visweswaran S**, Hochheiser H. Interactive NLP in clinical care: identifying incidental findings in radiology reports. *Applied Clinical Informatics*. 2019 Aug; 10(4):655-669. PMID: 31486057; PMCID: PMC6727024.
50. Trivedi G, Hong C, Dadashzadeh E, Handzel R, Hochheiser H, **Visweswaran S**. Identifying incidental findings from radiology reports of trauma patients: an evaluation of automated feature representation methods. *International Journal of Medical Informatics*. 2019 Sep 1; 129:81-7. PMID: 31445293; PMCID: PMC6717529.
51. Strobl EV, Spirtes P, **Visweswaran S**. Estimating and controlling the False Discovery Rate of the PC algorithm using edge-specific p-values. *ACM Transactions on Intelligent Systems and Technology*. 2019 Oct 10; 10(5):46.
52. Tajgardoon M, Samayamuthu M, Calzoni L, **Visweswaran S**. Patient-specific explanations for predictions of risk outcomes. *ACI Open*. 2019; 03(02):e88-e97. PMID: 34095753; PMCID: PMC8174671.
53. King AJ, Cooper GF, Clermont G, Hochheiser H, Hauskrecht M, Sittig DF, **Visweswaran S**. Using machine learning to selectively highlight patient information. *Journal of Biomedical Informatics*. 2019 Oct; 29:103327. PMID: 31676461; PMCID: PMC6932869.
54. King AJ, Cooper GF, Clermont G, Hochheiser H, Hauskrecht M, Sittig DF, **Visweswaran S**. Leveraging eye tracking to prioritize relevant medical record data: comparative machine learning study. *Journal of Medical Internet Research*. 2020; 22(4):e15876. PMID: 32238342; PMCID: PMC7163414.
55. **Visweswaran S**, Colditz JB, O’Halloran P, Han NR, Taneja SB, Welling J, Chu KH, Sidani JE, Primack BA. Machine learning classifiers for Twitter surveillance of vaping: comparative machine learning study. *Journal of Medical Internet Research*. 2020; 22(8):e17478. PMID: 32784184; PMCID: PMC7450367.
56. Yu K, **Visweswaran S**, Batmanghelich K. Semi-supervised hierarchical drug embedding in hyperbolic space. *Journal of Chemical Information and Modeling*. 2020 Dec 28; 60(12):5647-5657. PMID: 33140969; PMCID: PMC7943198.
57. Calzoni L, Clermont G, Cooper GF, **Visweswaran S**, Hochheiser H. Graphical presentations of clinical data in a Learning Electronic Medical Record. *Applied Clinical Informatics*. 2020 Aug; 11(04):680-691. PMID: 33058103; PMCID: PMC7560537.
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20. Bhavnani SK, Drake J, Dang B, **Visweswaran S**. Comprehension of multiple molecular pathways using 3D networks. In: *AMIA Joint Summits on Translational Science* Proceedings. 2013 Mar. (Poster abstract)
21. Espino J, Wagner MM, **Visweswaran S**. Predicting antigenic similarity from sequence for influenza vaccine strain selection. In: *AMIA Joint Summits on Translational Science Proceedings.* 2013 Mar. (Poster abstract)
22. Stokes ME, **Visweswaran S**. An efficient genetic model selection algorithm to predict outcomes from genomic data. In: *AMIA Joint Summits on Translational Science Proceedings.* 2013 Mar. (Poster abstract)
23. Bhavnani SK, Drake J, Dang B, **Visweswaran S**. Outlier detection through bipartite visual analytics. In: *AMIA Joint Summits Translational Science Proceedings*. 2013 Mar. (Podium presentation abstract)
24. Pineda AL, **Visweswaran S**, Cooper GF, Gopalakrishnan V. Machine learning classification of non-small cell lung cancer subtypes from gene methylation data. Presented at the *Great Lakes Bioinformatics Conference*. 2013 May.
25. Hauskrecht M, **Visweswaran S**, Cooper GF, Clermont G. Data-driven identification of unusual clinical actions in the ICU. In: *AMIA Annual Symposium Proceedings.* 2013 Nov 16; 2013. (Podium presentation abstract)
26. Dang B, **Visweswaran S**, Mejias A, Divekar R, Bhavnani SK. Revealing heterogeneity in gene regulation through network edge coloring: a case study in pediatric pulmonary infections. In: *AMIA Joint Summits Translational Science Proceedings.* 2014 Apr. (Poster abstract)
27. Pineda AL, Escareño CR, **Visweswaran S**, Gopalakrishnan V. Multi-omic Bayesian classification of lung adenocarcinomas and squamous cell carcinomas. In: *Proceedings of the 1st International Summer Symposium on Systems Biology*. 2014 Aug.
28. Bhavnani SK, Dang B, **Visweswaran S**, Divekar R. Inter-network cluster replication: a case study in co-occurring comorbidities. In: *AMIA Joint Summits Translational Science Proceedings.* 2015 Mar 24. (Podium presentation abstract)
29. Amin W, Borromeo C, Saul M, Becich MJ, **Visweswaran S**. Informatics synergies between PaTH and ACT networks. In: *AMIA Joint Summits Translational Science Proceedings.* 2015 Mar 25; 2015:294-5. (Poster abstract)
30. Bhavnani SK, **Visweswaran S**, Divekar R, Bellala G. Where is the science in big data visual analytics? From pretty pictures to transformative biomedical discoveries. In: *AMIA Joint Summits on Translational Science Proceedings*. 2015 Mar 26; 2015:19-21. (Panel presentation abstract)
31. Norman BA, Odukoya OK, **Visweswaran S**. Modeling the work flow of abandoned e-prescriptions in retail chain pharmacies. In: *Industrial and Systems Engineering Research Conference*. 2015 May.
32. **Visweswaran S**, Tenenbaum J, Gouripeddi R. Secondary use of data for research - EHR, omics and environmental data. In: *AMIA Joint Summits on Translational Science Proceedings*. 2016 Mar 22. (Panel presentation abstract)
33. Bhavnani SK, Dang B, Chen T, Bassler K, Divekar R, **Visweswaran S**. Replicability of co-occurring comorbidities: implications for precision medicine. In: *AMIA Joint Summits on Translational Science Proceedings*. 2016 Mar 23. (Poster abstract)
34. Khatri S, Shirey W, Tajgardoon M, **Visweswaran S**. Patient-specific explanations of risk predictions in community acquired pneumonia. In: *AMIA Annual Symposium Proceedings*. 2017 Nov 6. (Poster abstract)
35. Calzoni L, Clermont G, Cooper GF, **Visweswaran S**, Hochheiser H. Exploring novel graphical representations of clinical data in a learning EMR. In: *AMIA Annual Symposium Proceedings*. 2017 Nov 7. (Poster abstract)
36. Bhavnani SK, Ayyaswamy A, Chen T, **Visweswaran S**, Bellala G, Bassler KE. Vicinity exploration: enabling user-driven visual search of multiple machine learning models for precision medicine. In: *AMIA Annual Symposium Proceedings*. 2017 Nov 7. (Systems demonstration abstract)
37. **Visweswaran S**. Developing a Learning Electronic Medical Record System. In: *AMIA Clinical Informatics Conference Proceedings*. 2018 May 9. (Podium talk abstract)
38. Trivedi G, Handzel R, **Visweswaran S**, Chapman W, Hochheiser H. An interactive NLP tool for signout note preparation. In: *2018 IEEE International Conference on Healthcare Informatics (ICHI)*. 2018 Jun 4-7; 426-428. (Presentation abstract)
39. Tajgardoon M, **Visweswaran S**. Patient-specific explanations from risk prediction models. In: *AMIA Clinical Informatics Conference Proceedings*. 2018 May 9. (Podium talk abstract)
40. Bhavnani SK, Ameredes B, **Visweswaran S**. Team-centric informatics: leveraging team science for designing effective informatics solutions. In: *Science of Team Science (SciTS) Conference*. 2018 May 21-24.
41. Calzoni L, Clermont G, Cooper GF, **Visweswaran S**, Hochheiser H. Design of a Learning Electronic Medical Record: a qualitative study of ICU clinicians’ information needs and practices. In: *AMIA Annual Symposium Proceedings*. 2018 Nov 5.
42. Borromeo C, Shirey W, Morris M, Zhang Y, Samayamuthu M, **Visweswaran S**. Workflow for developing i2b2 ontologies from source terminologies in ACT. In: *AMIA Annual Symposium Proceedings*. 2018 Nov 5.
43. Posada JD, Shi L, Castro S, **Visweswaran S**, Ryan N, Harkema H, Tsui F. Social context sentence classification from psychiatric reports using positive and unlabeled learning. In: *AMIA Annual Symposium Proceedings*. 2018 Nov 6. (Poster abstract)
44. Zhang Y, Morris M, **Visweswaran S**. A computable phenotype library plugin for i2b2. In: *AMIA Annual Symposium Proceedings*. 2018 Nov 6. (Poster abstract)
45. Borromeo C, Shirey W, Cappella N, **Visweswaran S**, Silverstein JC, Becich MJ. Software package to load data from REDCap to PCORnet CDM 4.0. In: *AMIA Annual Symposium Proceedings*. 2018 Nov 6. (Poster abstract)
46. Bhavnani SK, Sellappan R, Joshi S, Starkey J, Chan W, Chen T, **Visweswaran S**. Utility of visual analytics for identifying patient subgroups in EMRs: insights for accelerating precision medicine. In: *AMIA Annual Symposium Proceedings*. 2018 Nov 6. (Poster abstract)
47. Visweswaran S, Murphy SN, MacFadden D, Anderson NR. Accrual to Clinical Trials (ACT): A Clinical and Translational Science Award Consortium Network. In: *AMIA Joint Summits on Translational Science*. 2019 Mar. (Panel presentation abstract)
48. **Visweswaran S**. Using eye-tracking to support a learning electronic medical record system. In: *AMIA Clinical Informatics Conference Proceedings*. 2019 May 1. (Podium talk abstract)
49. King AJ, **Visweswaran S**, Hochheiser H, Clermont G, Cooper GF. Insights from a dissertation on the development of a Learning Electronic Medical Record System: data-driven, context-aware learning. In: *AMIA Annual Symposium Proceedings*. 2019 Nov 18. (Poster abstract)
50. Bhavnani SK, **Visweswaran S**, Kummerfeld E, Clark C, Penton R. Team-centered informatics: a necessary adaptation to translational and implementation science? In: *AMIA Annual Symposium Proceedings*. 2019 Nov 19. (Panel presentation abstract)
51. Natarajan K, Carroll R, Campion TR, Grand JM, **Visweswaran S**. Curating EHR data in the All of Us Research Program. In: *AMIA Annual Symposium Proceedings*. 2019 Nov 19. (Panel presentation abstract)
52. Walker LW, Nowalk AJ, **Visweswaran S**. Machine learning can predict outcomes in pediatric central line-associated bloodstream infection. In: *AMIA Clinical Informatics Conference Proceedings*. 2020 May 20. (Virtual) (Podium talk abstract)
53. Murphy SN, Gainer V, **Visweswaran S**, Morris M, Weber GM, McFadden D, Klann J. Mobilizing the Accrual to Clinical Trials (ACT) network for Covid-19 research (and beyond). In: *AMIA Informatics Summit Proceedings*. 2021 Mar 24. (Virtual) (Ignite talk abstract)
54. **Visweswaran S**, Samayamuthu MJ, Morris M, Weber GM, MacFadden D, Trevvett P, Klann JG, Gainer V, Murphy SN. A COVID-19 application ontology for the ACT network. In: *AMIA Informatics Summit Proceedings*. 2021 Mar 24. (Virtual) (Podium presentation abstract)
55. Johnson A, Cooper GF, **Visweswaran S**. Patient-specific modeling with lazy Random Forest (LazyRF). In: *AMIA Annual Symposium Proceedings*. 2021 Oct 26. (Virtual) (Poster abstract)
56. Perez EC, **Visweswaran S**, Hochheiser H. Comparison of population-wide explanations for predicting the outcomes of patients with community-acquired pneumonia. In: *AMIA Annual Symposium Proceedings*. 2021 Nov 1. (Poster abstract)
57. Klann J, Handerson D, Visweswaran S, Estiri H, Murphy SN. Ensuring quality: a core competency of federated EHR data networks. In: *AMIA Informatics Summit Proceedings*. 2022 Mar 23. (Panel presentation abstract)
58. **Visweswaran S**, Morris M. Want to identify cohorts seamlessly across data models? Try ACT. Ignite talk at the AMIA Informatics Summit In: *AMIA Informatics Summit Proceedings*. 2022 Mar 23. (Ignite talk abstract)
59. Li C, Dilan IO, **Visweswaran S**, Becich MJ, Jiang X, Boyce RD. Developing and evaluation of computational phenotypes of metastatic breast cancer using All of Us data. In: *AMIA Annual Symposium Proceedings*. 2022 Nov 7. (Poster abstract)
60. Harle HA, Meeker D, **Visweswaran S**, Campion TR, Knosp BM. Delivering real world patient data for clinical and translational research: approaches from four institutions. In: *AMIA Annual Symposium Proceedings*. 2022 Nov 9. (Panel presentation abstract)
61. Pedapati V, Du K, Mina A, Bradley A, Espino J, Batmanghelich K, Thirumala P, **Visweswaran S**. Quantitative EEG changes in carotid endarterectomy correlated with ischemia. In: *2022 IEEE Signal Processing in Medicine and Biology Symposium (SPMB)*.2022 Dec 3. (Poster abstract)
62. Du K, Pedapati V, Mina A, Bradley A, Espino J, Batmanghelich K, Thirumala P, **Visweswaran S**. EEG changes correlated with ischemia across the sexes in carotid endarterectomy. In: *2022 IEEE Signal Processing in Medicine and Biology Symposium (SPMB)*. 2022 Dec 3. (Poster abstract)
63. Walker LW, Norwalk AJ, **Visweswaran S**. Machine learning model interpretation tools reveal sub-populations with differing predictors in a clinical prediction model. In: *AMIA Informatics Summit Proceedings*. 2023 Mar 13. (Poster abstract)
64. Hutch MR, Son J, Le TT, Hong C, Wang X, Abad ZHS, The Consortium for Clinical Characterization of COVID-19 by EHR (4CE), **Visweswaran S**, Cai T, Luo Y, Xia Z. Neurological diagnoses in hospitalized COVID-19 patients associated with adverse outcomes: a multinational cohort study. In: *AMIA Informatics Summit Proceedings*. 2023 Mar 14. (Podium presentation abstract)
65. Sadhu EM, Samayamuthu MJ, **Visweswaran S**. LOINC codes that may contain personally identifiable information. In: *AMIA Annual Symposium Proceedings*. 2023 Nov 13. (Poster abstract)
66. Bradley A, Merlin J, Escott P, Ghani R, Silverstein J, **Visweswaran S**, Arnold J. Machine learning to detect opioid misuse from primary care notes. In: *AMIA Annual Symposium Proceedings*. 2023 Nov 13. (Poster abstract)
67. Anderson JW, Shaikh N, **Visweswaran S**. Assessing racial bias in clinical prediction for urinary tract infections. In: *AMIA Annual Symposium Proceedings*. 2023 Nov 13. (Poster abstract) [[13]](#footnote-13)
68. Bui K, Morris M, **Visweswaran S**. An i2b2 plugin for installing ontologies. In: *AMIA Annual Symposium Proceedings*. 2023 Nov 13. (Poster abstract)
69. Claudio EP, **Visweswaran S**, Hochheiser H. User needs inquiries for explainable clinical decision support interfaces. In: *AMIA Annual Symposium Proceedings*. 2023 Nov 14. (Poster abstract)
70. Klann J, Henderson D, Morris M, Estiri H, Weber G, Keogh D, **Visweswaran S**, Murphy S. Enriching electronic-health-record cohorts by identifying patients with complete data. In: *AMIA Annual Symposium Proceedings*. 2023 Nov 14. (Podium presentation abstract)
71. Bhavnani SK, Zhang W, Bao D, Kuo Y-F, Schmidt S, Pappadis MR, Bokov A, Reistetter T, **Visweswaran S**\*, Downer B\*. Subtyping social determinants of health in All of Us: opportunities and challenges for designing precision interventions. In: *AMIA Annual Symposium Proceedings*. 2023 Nov 14. (Podium presentation abstract) \*Shared senior authorship.
72. Samayamuthu MJ, Sadhu EM, Anderson JW, **Visweswaran S**. A survey of clinical algorithms with race. In: *AMIA Informatics Summit Proceedings*. 2024 Mar. (Poster abstract)
73. Espino JU, **Visweswaran S**, Cooper G. Effects of De-identification on named entity recognition of emergency department reports. In: *AMIA Informatics Summit Proceedings*. 2024 Mar. (Poster abstract)
74. Bhavnani SK, Solod A, Ajewole V, Hunter R, Schmidt S, Pappadis MR, Reistetter T, **Visweswaran S**. Deep cluster interpretation of SDoH subtypes: towards human-centered AI systems. In: *AMIA Informatics Summit Proceedings*. 2024 Mar. (Podium presentation abstract)
75. Wen A, Sohn S, **Visweswaran S**, Wang Y, Liu H. On federated development and deployment of post-market active surveillance for medical device safety: a discussion on opportunities and challenges. In: *AMIA Informatics Summit Proceedings*. 2024 Mar. (Panel presentation abstract)

7. PREPRINTS

1. Mohammad HA, Sivarajkumar S, Viggiano S, Oniani D, **Visweswaran S**, Wang Y. Extraction of sleep information from clinical notes of Alzheimer’s disease patients using natural language processing. *medRxiv*; 2022. doi: https://doi.org/10.1101/2022.03.29.22273078.
2. SW Shaffran, F Gao, PE Denny, BM Aldhahwani, A Bove, **S Visweswaran**, Wang Y. Extracting physical rehabilitation exercise information from clinical notes: a comparison of rule-based and machine learning natural language processing techniques. *arXiv preprint* arXiv: 2303.13466. 2023 Mar 22.
3. Bhavnani SK, Zhang W, Bao D, Raji M, Ajewole V, Hunter R, Kuo Y-F, Schmidt S, Pappadis MR, Bokov A, Reistetter T, **Visweswaran S**, Downer B. Subtyping social determinants of health in All of Us: opportunities and challenges in integrating multiple datatypes for precision medicine. *medRxiv*; 2023. doi: https://doi.org/10.1101/2023.01.27.23285125.
4. Maripuri M, Dey AT, Honerlaw JP, Hong C, Ho YL, Tanukonda V, Chen AW, Panickan VA, Wang X, Yang D, Zhang HG, Yang D, Samayamuthu MJ, Morris M, **Visweswaran S**, Beaulieu-Jones BR, Ramoni RB, Muralidhar S, Gaziano MJ, Liao KP, Xia Z, Brat GA, Cai T, Cho K. Characterization of Long COVID definitions and clinical coding practices. *medRxiv;* 2023. doi: https://doi.org/10.1101/2023.10.04.23296301.
5. **Visweswaran S**, Sadhu EM, Morris MM, Samayamuthu MJ. Clinical algorithms with race: an online database. *medRxiv*. 2023. doi: https://doi.org/10.1101/2023.07.04.23292231. PMID: 37461462; PMCID: PMC10350134.
6. Sivarajkumar S, Kelley M, Samolyk-Mazzanti A, **Visweswaran S**, Wang Y. An empirical evaluation of prompting strategies for large language models in zero-shot clinical natural language processing. *arXiv preprint* arXiv:2309.08008. 2023 Sep 14.
7. Wang Y, **Visweswaran S**, Kappor S, Kooragayalu S, Wu X. ChatGPT, enhanced with clinical practice guidelines, is a superior decision support tool. *medRxiv;* 2023. doi: https://doi.org/10.1101/2023.08.09.23293890.
8. **Visweswaran S**, Zhang LY, Bui K, Sadhu EM, Samayamuthu MJ, Morris MM. Sharing and reusing computable phenotype definitions. *medRxiv*. 2023 Sep 18:2023.09.17.23295681. doi: https://doi.org/10.1101/2023.09.17.23295681. PMID: 37790390; PMCID: PMC10543043.
9. Xu Y, Sun L, Peng W, **Visweswaran S**, Batmanghelich K. MedSyn: Text-guided anatomy-aware synthesis of high-fidelity 3D CT images. *arXiv preprint* arXiv:2310.03559. 2023 Oct 5.
10. Anderson JW, Shaikh N, **Visweswaran S**. Measuring and reducing racial bias in a pediatric urinary tract infection model. *medRxiv*; 2023. doi: https://doi.org/10.1101/2023.09.18.23295660.
11. Mina AI, Espino JU, Bradley AM, Thirumala PD, Batmanghelich K, **Visweswaran S**. Detecting cerebral ischemia from electroencephalography during carotid endarterectomy using machine learning. *medRxiv*; 2023. doi: https://doi.org/10.1101/2023.10.04.23295638.

**PROFESSIONAL ACTIVITIES**

**TEACHING**

**Medical Student Teaching:**

|  |  |
| --- | --- |
| 1999 – 2000 | Neurology Lectures for Medical Students, Boston University School of Medicine, Boston, MA |
| 2022 | Fundamentals of Data Science in Health Care ‐ 1 lecturer, Artificial Intelligence and Machine Learning in Healthcare (Personal Enrichment Course), University of Pittsburgh School of Medicine |
| 2022 – present | Artificial Intelligence in Medicine lecturer, Evidence Based Medicine – Applied, University of Pittsburgh School of Medicine |
| 2022 – present | Artificial Intelligence in Clinical Medicine lecturer, Changing Science, Changing Society: A Guide to 21st Century Medicine (MSELCT 5700), University of Pittsburgh School of Medicine |

**Graduate Student Teaching:**

|  |  |
| --- | --- |
| 1995 – 1996 | Teaching Assistant, Physiology laboratory course, University of Illinois at Urbana-Champaign, Urbana-Champaign, IL |
| 2002 | Teaching Assistant, BIOINF 2011 Probabilistic Methods for Computer-Based Decision Support, Pittsburgh Medical Informatics Training Program, University of Pittsburgh School of Medicine |
| 2002 – 2003 | Files, data types and variables lecturer, Programming Basics Workshop, Pittsburgh Medical Informatics Training Program, University of Pittsburgh School of Medicine |
| 2007 – 2014 | Instructor and Co-Director or Director, BIOINF 2011 Introduction to Health Informatics (3 credits), Biomedical Informatics Training Program, University of Pittsburgh School of Medicine |
| 2009 – 2018 | Genomics lecturer, BIOINF 2051 Foundations of Bioinformatics, Biomedical Informatics Training Program, University of Pittsburgh School of Medicine |
| 2010 – 2019 | Instructor, Course Developer, and Director, BIOINF 2119 Probabilistic Methods in Artificial Intelligence (3 credits), Biomedical Informatics Training Program, University of Pittsburgh School of Medicine |
| 2011 – 2018 | Evaluation in medical informatics lecturer, BIOINF 2011 Foundations of Clinical and Public Health Informatics, Biomedical Informatics Training Program, University of Pittsburgh School of Medicine |
| 2011, 2013, 2015 | National Science Foundation (NSF) lecturer, BIOINF 2132 Special Topics: Grant Writing in Biomedical Informatics, Biomedical Informatics Training Program, University of Pittsburgh School of Medicine |
| 2011 | Introduction to artificial intelligence lecturer, Computational and Systems Biology and Biomedical Informatics (CoSBBI) program for high school students, University of Pittsburgh School of Medicine |
| 2012 | Facilitator for Medical Scientist Training Program’s course, MSTP 5290 Research Basis of Medical Knowledge, University of Pittsburgh School of Medicine |
| 2012 | Bayesian networks in human genetics lecturer, HUGEN 2080Statistical Genetics, University of Pittsburgh Graduate School of Public Health |
| 2013 | Machine learning lecturer, CS 1571 Introduction to Artificial Intelligence, University of Pittsburgh Dietrich School of Arts and Sciences |
| 2013 – 2014 | Instructor, Course Developer, and Director, BIOINF 2011 Foundations of Clinical and Public Health Informatics (Online, 3 credits), Biomedical Informatics Training Program, University of Pittsburgh School of Medicine |
| 2013 – 2014 | Genome-wide association studies lecturer, Computational and Systems Biology and Biomedical Informatics (CoSBBI) program for high school students, University of Pittsburgh School of Medicine |
| 2015 | Facilitator for University of Pittsburgh Medical Scientist Training Program’s course Ethics for Medical Scientists, University of Pittsburgh School of Medicine |
| 2016 | The Precision Medicine Initiative and Transforming Healthcare Data for Research lecturer, CMU 42-671 Precision Medicine for Bioengineers, Carnegie Mellon University, Pittsburgh, PA |
| 2017 | Instructor for breakout session on Single Cell Pathways in Causal Discovery from Biomedical Data summer Short Course, June 12-15, 2017, Carnegie Mellon University, Pittsburgh, PA |
| 2018 | Big Data Resources, Mining and Analysis of Patient Data lecturer, MSMPHL 2370 Drug Discovery, University of Pittsburgh School of Medicine |
| 2018 | The Precision Medicine Initiative and Transforming Healthcare Data for Research lecturer, CMU 42-671 Precision Medicine for Bioengineers, Carnegie Mellon University, Pittsburgh, PA |
| 2018 | Instructor for breakout session on Single Cell Pathways in Causal Discovery from Biomedical Data summer Short Course, June 11-15, 2018, Carnegie Mellon University, Pittsburgh, PA |
| 2019 – 2020 | Clinical Information Systems lecturer, BIOINF 2070 Foundations of Biomedical Informatics 1, Biomedical Informatics Training Program, University of Pittsburgh School of Medicine |
| 2020 – 2021 | Instructor, Course Developer, and Director, BIOINF 2071 Foundations of Biomedical Informatics 2 (3 credits), Biomedical Informatics Training Program, University of Pittsburgh School of Medicine |
| 2021 – present | Decision Theory lecturer, BIOINF 2071 Foundations of Biomedical Informatics 2, Biomedical Informatics Training Program, University of Pittsburgh School of Medicine |
| 2023 – present | Probabilistic Reasoning lecturer, BIOINF 2105 Artificial Intelligence for Biomedical Informatics, Biomedical Informatics Training Program, University of Pittsburgh School of Medicine |

**Resident Teaching:**

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| 1999 – 2000 | Neurology Seminars for Residents, Boston University School of Medicine, Boston, MA |

**Curriculum Development / Teaching Products / Media Products:**

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| --- | --- |
| 2008 – 2009 | Led the development of inaugural graduate curriculum for the Biomedical Informatics Training Program. The curriculum established core courses in biomedical informatics, research methods, and skills taken by all students and established elective courses for personalization for advanced training. |
| 2008 – 2018 | Oversaw changes to the University of Pittsburgh School of Medicine Medical Scientist Training Program (MSTP) curriculum in the Biomedical Informatics Training Program. |
| 2008 – 2014 | Oversaw changes to the Intelligent Systems Program (Biomedical Informatics track) curriculum. |
| 2010 – 2019 | Developed, directed and taught a core course of the Biomedical Informatics Training Program titled BIOINF 2119 Probabilistic Methods in Artificial Intelligence (3 credits). |
| 2013 – 2014 | Developed, directed and taught a core online course of the Biomedical Informatics Training Program titled BIOINF 2011 Foundations of Clinical and Public Health Informatics (Online, 3 credits). |
| 2017 – 2020 | Worked with the Director of the Biomedical Informatics Training Program to overhaul the graduate curriculum. The overhaul was designed to achieve three key objectives: (1) emphasize the focus on the development of artificial intelligence (AI) and machine learning (ML) methods, (2) streamline the evaluation processes, and (3) reduce the time to completion of the degree. |
| 2020 – present | Developed, directed and taught a core course of the Biomedical Informatics Training Program titled BIOINF 2071 Foundations of Biomedical Informatics 2 (3 credits). |

**Mentoring:**

Research Advising:

*Primary Research Advisor to the following students in the Certificate Program*:

|  |  |
| --- | --- |
| 2018 – 2019 | Louisa Zhang in Biomedical Informatics; current position: Senior Data Scientist, IDEXX, Westbrook, ME |
| 2018 – 2019 | Malarkodi Jebathilagam Samayamuthu in Biomedical Informatics; current position: Senior Research Scientist, Department of Biomedical Informatics, University of Pittsburgh School of Medicine, Pittsburgh, PA |

*Primary Research Advisor to the following graduate students for the MS degree:*

|  |  |
| --- | --- |
| 2009 – 2010 | Jay Shah, MD, MS (obtained 2010) in Biomedical Informatics; current position: Nephrologist, Nephrology Associates of Central PA, Camp Hill, PA |
| 2009 – 2010 | Jonathan Bickel, MD, MS (obtained 2010) in Biomedical Informatics; current position: Sr Director IT Clinical Strategic Advisor, Boston Children's Hospital, Boston, MA |
| 2010 – 2012 | Nara Um, MD, MS (obtained 2012) in Biomedical Informatics; current position: Deputy Chief Medical Informatics Officer, Federal Electronic Health Record Modernization Office, Arlington, VA |
| 2010 – 2012 | Charalampos Floudas, MD, MS (obtained 2012) in Biomedical Informatics; current position: Head of Head and Neck Cancer therapy, Immunotherapy section, NIH, Bethesda, MD |
| 2022 – present | Harikesh Subramanian, MBBS (MS expected 2023) in Biomedical Informatics; current position: Assistant Professor, Department of Anesthesiology and Perioperative Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA |
| 2023 – present | Rahul Chaudhary, MD, MBA (MS expected 2025) in Intelligent Systems Program; current position: Cardiology Fellow, UPMC, Pittsburgh, PA |

*Primary Research Advisor to the following graduate students for the PhD degree:*

|  |  |
| --- | --- |
| 2009 – 2012 | Chad Kimmel, PhD (obtained 2012) in Biomedical Informatics; current position: Operations Research Analyst, iO Data Analytics LLC, OH |
| 2009 – 2014 | Matthew E. Stokes, MS (obtained 2011), PhD (obtained 2014) in Intelligent Systems Program; current position: Translational Medicine, Bristol Myers Squibb, Summit, NJ |
| 2010 – 2015 | Arturo Lopez Pineda, MS (obtained 2012), PhD (obtained 2015) in Biomedical Informatics (co-advisor); current position: CEO, Amphora Health, Morelia, Michoacán, Mexico |
| 2007 – 2016 | An-kwok Ian Wong, MS (obtained 2009), PhD (obtained 2016) in Intelligent Systems Program; current position: Assistant Professor in Pulmonary & Critical Care Medicine / Translational Biomedical Informatics, Duke University, Cary, NC |
| 2016 – 2018 | Joyeeta Dutta-Moscato, MS, PhD (obtained 2018) in Biomedical Informatics; current position: Lead Quality Improvement Analyst, UPMC Health Plan, Pittsburgh, PA |
| 2017 – present | Mohammadamin Tajgardoon, MS (obtained 2019), PhD (expected 2022) in Intelligent Systems Program; current position: Applied Scientist, Amazon Web Services (AWS), Santa Clara, CA |
| 2018 – 2023 | Ke Yu, MS (obtained 2020), PhD (obtained 2023) in Intelligent Systems Program; current position: Google |
| 2022 – present | Joshua Anderson, MS in Intelligent Systems Program; current position: doctoral trainee |

*Primary Research Advisor to the following students in Medical Scientist Training Program* (*MSTP*):

|  |  |
| --- | --- |
| 2014 – 2017 | Eric V. Strobl, MS (obtained 2011), PhD (obtained 2017) in Biomedical Informatics; current position: Child and Adolescent Psychiatry Fellow, Department of Psychiatry and Behavioral Sciences, Vanderbilt University Medical Center, Nashville, TN |
| 2017 – 2021 | Adriana Johnson, MS (obtained 2020), PhD (obtained 2021) in Biomedical Informatics; current position: Obstetrics and Gynecology Resident, Tufts Medical Center, Boston, MA |
| 2021 – present | Amir Mina in Biomedical Informatics (co-advisor); current position: MSTP trainee, University of Pittsburgh School of Medicine, Pittsburgh, PA |

*Primary Research Advisor to the following post-doctoral associates:*

|  |  |
| --- | --- |
| 2009 – 2010 | Xia Jiang, PhD, Post-Doctoral Associate in Biomedical Informatics (co-advisor); current position: Associate Professor, Department of Biomedical Informatics, University of Pittsburgh School of Medicine, Pittsburgh, PA |
| 2009 – 2011 | Pablo Hennings-Yeomans, PhD, Post-Doctoral Associate in Biomedical Informatics (co-advisor) |
| 2012 – 2013 | Charalampos Floudas, MD, MS, Post-Doctoral Associate in Biomedical Informatics; current position: Head of Head and Neck Cancer therapy, Immunotherapy section, NIH, Bethesda, MD |
| 2012 – 2013 | Antonio Ferreira, PhD, Post-Doctoral Associate in Biomedical Informatics (co-advisor) |

*Primary Research Advisor to high school students*:

|  |  |
| --- | --- |
| 2011 | Edward Nguyen in the University of Pittsburgh Cancer Institute Summer Academy and the Computational and Systems Biology and Biomedical Informatics (CoSBBI) program for high school students |
| 2013 | Amy McMillen in the University of Pittsburgh Cancer Institute Summer Academy and the Computational and Systems Biology and Biomedical Informatics (CoSBBI) program for high school students |
| 2017 | Shaina Khatri in the University of Pittsburgh Cancer Institute Summer Academy and the Computational and Systems Biology and Biomedical Informatics (CoSBBI) program for high school students |

*Other Research Mentoring:*

|  |  |
| --- | --- |
| 2012 | MSTP Summer Laboratory Rotation Research Advisor to Eric Strobl, MSTP student |
| 2013 | MSTP Summer Laboratory Rotation Research Advisor to Eric Strobl, MSTP student |
| 2015 | MSTP Summer Laboratory Rotation Research Advisor to Adriana Johnson, MSTP student |
| 2017 | MSTP Summer Laboratory Rotation Research Advisor to Adriana Johnson, MSTP student |
| 2017 – 2020 | Informatics mentor to Lorne Walker, MD, PhD, Pediatric Infectious Disease Fellow |
| 2017 – 2018 | Informatics mentor to Jonathan Arnold, MD, MSE, Clinical Instructor of Medicine |
| 2018 – 2019 | Research Advisor to Chandramouli Ratham, MS, School of Medicine’s *Bioengineering, Biotechnology, and Innovation Area of Concentration* (*BBI AOC*) program for medical school students. |
| 2019 | Research Rotation Advisor to Eric Strobl, MSTP student |
| 2021 – 2022 | Informatics mentor to Harikesh Subramanian, MD, Assistant Professor in Anesthesiology and Perioperative Medicine |
| 2000 | MSTP Summer Laboratory Rotation Research Advisor to Amir Mina, MSTP student |
| 2000 | MSTP Summer Laboratory Rotation Research Advisor to Michael Leone, MSTP student |
| 2021 – 2022 | Informatics mentor to Harikesh Subramanian, MD, Assistant Professor in Anesthesiology and Perioperative Medicine |
| 2022 | PSTP Summer Laboratory Rotation Research Advisor to Katherine Du, PSTP student |
| 2022 | Research Rotation Advisor to Adriana Johnson, MSTP student |
| 2022 – 2023 | Informatics mentor to Craig Sewall, PhD, Postdoctoral trainee in Psychiatry |
| 2022 – 2023 | Informatics mentor to Rahul Chaudhary, MD, Fellow in Cardiology |
| 2023 | PSTP Summer Laboratory Rotation Research Advisor to Harshini Raman, PSTP student |

Academic and Career Advising:

*Academic Advisor to the following students in Biomedical Informatics Training Program*:

|  |  |
| --- | --- |
| 2008 – 2015 | Richard Wilson, PhD trainee |
| 2009 – 2016 | Rick Jordan, PhD trainee |
| 2008 – 2017 | Kevin McDade, PhD trainee |
| 2009 – 2014 | Danielle Mowery, PhD trainee |
| 2009 – 2013 | Marc Clayton, MS trainee |
| 2010 – 2012 | Patrice Thorpe Jamison, MS trainee |
| 2010 – 2012 | Arturo Lopez Pineda, PhD trainee |
| 2011 – 2012 | Jessica Larusch, Certificate trainee |
| 2011 – 2013 | Holly Perry Berty, PhD trainee |
| 2011 – 2015 | Joyeeta Dutta Mascoto, PhD trainee |
| 2012 – 2013 | Reza Sadeghian, MS trainee |
| 2014 – 2015 | She Zhang, MS trainee |
| 2014 – 2018 | Yuzhe Brian Liu, MSTP & PhD trainee |
| 2015 – 2016 | Chandra Rathnam, MS trainee |
| 2015 – 2016 | Srilakshmi Chaparala, Certificate trainee |
| 2016 – 2021 | Pritika Dasgupta, PhD trainee |
| 2017 – 2022 | Brandan Dunham, PhD trainee |
| 2018 – 2019 | Olga Kravchenko, Certificate trainee |

*Career Advisor to the following students in Medical Scientist Training Program* (*MSTP*):

|  |  |
| --- | --- |
| 2014 – 2018 | Yuzhe Brian Liu, career advisor to MSTP student |
| 2018 – present | Amir Mina, career advisor to MSTP student |
| 2020 – present | Michael Leone, career advisor to MSTP student |
| 2020 – present | Rumana Rashid, career advisor to MSTP student |

*Career Advisor to the following students in Physician Scientist Training Program (PSTP*):

|  |  |
| --- | --- |
| 2017 – 2018 | Nathan Sisterson, career advisor to PSTP student |

Graduate Committees:

*Member of the MS Thesis Committee / PhD Preliminary Evaluation of the following graduate students*:

|  |  |
| --- | --- |
| 2009 | Shuguang Wang, MS – Intelligent Systems Program |
| 2010 | Rajiv Wadhwa, MD, MS – Biomedical Informatics Training Program |
| 2010 | Jian Wang, MS – Biomedical Informatics Training Program |
| 2010 | Danielle Mowery, MS – Biomedical Informatics Training Program |
| 2010 | Zachary Landis Lewis, MS – Biomedical Informatics Training Program |
| 2010 | Saeed Amizadeh, MS – Intelligent Systems Program |
| 2010 | Yuriy Sverchkov, MS – Intelligent Systems Program |
| 2012 | Jeremy Espino, MD, MS – Intelligent Systems Program |
| 2013 | Henry Ogoe, MS – Biomedical Informatics Training Program |
| 2013 | Mahdi Pakdaman Naeini, MS – Intelligent Systems Program |
| 2014 | Reza Sadeghian, MD, MS – Biomedical Informatics Training Program |
| 2014 | Victor Ruiz Herrera, MS – Biomedical Informatics Training Program |
| 2014 | John Frazier, MS – Biomedical Informatics Training Program |
| 2015 | Andrew King, MS – Biomedical Informatics Training Program |
| 2015 | Amie Draper, MS – Biomedical Informatics Training Program |
| 2016 | Sergio Castro Diaz, MS – Biomedical Informatics Training Program |
| 2016 | Diyang Xue, MS – Intelligent Systems Program |
| 2017 | Bryan Andrews, MS – Intelligent Systems Program |
| 2018 | Luca Calzoni, MS – Biomedical Informatics Training Program |
| 2019 | Mahbaneh Torbati, MS – Intelligent Systems Program |
| 2020 | Saba Dadsetan, MS – Intelligent Systems Program |
| 2020 | Sanya Taneja, MS – Intelligent Systems Program |
| 2021 | Yingci Liu, MS – Biomedical Informatics Training Program |
| 2022 | Neil Munjal, MD, MS – Intelligent Systems Program |
| 2023 | Sonish Sivarajkumar – Intelligent Systems Program |
| 2023 | Nihal Murali – Intelligent Systems Program |
| 2023 | Daniel Sokolowski – Biomedical Informatics Training Program |

*Member of the PhD Dissertation Committee of the following graduate students*:

|  |  |
| --- | --- |
| 2009 | Jonathan Lustgarten, PhD – Biomedical Informatics Training Program |
| 2010 | Steven M. Handler, MD, PhD – Biomedical Informatics Training Program |
| 2010 | Philip Ganchev, PhD – Intelligent Systems Program |
| 2012 | Himanshu Grover, PhD – Biomedical Informatics Training Program |
| 2012 | Holly Berty, PhD – Biomedical Informatics Training Program |
| 2013 | Eric Williams, PhD – Intelligent Systems Program |
| 2014 | Danielle Mowery, PhD – Biomedical Informatics Training Program |
| 2014 | Yuriy Sverchkov, PhD – Intelligent Systems Program |
| 2015 | Ying-Feng Hsu, PhD – School of Information Sciences |
| 2016 | Rick Jordan, PhD – Biomedical Informatics Training Program |
| 2016 | Henry Ogoe, PhD – Biomedical Informatics Training Program |
| 2016 | Lujia Chen, PhD – Biomedical Informatics Training Program |
| 2016 | Mahdi Pakdaman Naeini, PhD – Intelligent Systems Program |
| 2018 | Andrew King, PhD – Biomedical Informatics Training Program |
| 2018 | Yuzhe Brian Liu, PhD – MSTP & Biomedical Informatics Training Program |
| 2019 | Victor Ruiz Herrera, PhD – Biomedical Informatics Training Program |
| 2019 | Gaurav Trivedi, PhD – Intelligent Systems Program |
| 2019 | Jeya Balasubramanian, PhD – Intelligent Systems Program |
| 2019 | Amie Barda, PhD – Biomedical Informatics Training Program |
| 2019 | Shuguang Wang, PhD (on leave) – Intelligent Systems Program |
| 2020 | Yangbing Xue, PhD – Computer Science |
| 2020 | Fattaneh Jabbari, PhD – Intelligent Systems Program |
| 2021 | Jason B. Colditz – Clinical and Translational Science |
| 2021 | Lauren Rost, PhD – Biomedical Informatics Training Program |
| 2022 | Jeongmin Lee, PhD – Computer Science |
| 2022 | Brandan Dunham, PhD – Biomedical Informatics Training Program |
| 2023 | Luca Calzoni, PhD (expected) – Biomedical Informatics Training Program |
| 2023 | Hazim Alotaibi, SJD (expected) – Doctor of Juridical Science (SJD) Program |
| 2023 | Tran Quoc Bao Tran (expected) – University of Glasgow |
| 2024 | Mahbaneh Eshaghzadeh Torbati (expected) – Intelligent Systems Program |
| 2024 | Eddie Claudio Perez (expected) – Biomedical Informatics Training Program |
| 2024 | Shruti Venkatesh (expected) – MSTP & CNUP Training Program |

*Member of the Comprehensive Examination Committee of the following graduate students*:

|  |  |
| --- | --- |
| 2008 | Thankam Thyvalikakath – Biomedical Informatics Training Program |
| 2008 | Eric Williams – Intelligent Systems Program |
| 2008 | Himanshu Grover – Biomedical Informatics Training Program |
| 2010 | Richard Wilson – Biomedical Informatics Training Program |
| 2010 | Shuguang Wang – Intelligent Systems Program |
| 2011 | Hatice Ulku Osmanbeyoglu – Biomedical Informatics Training Program |
| 2011 | Zach Landis Lewis – Biomedical Informatics Training Program |
| 2011 | Danielle Mowery – Biomedical Informatics Training Program |
| 2012 | Kevin McDade – Biomedical Informatics Training Program |
| 2012 | Katrina Romagnoli – Biomedical Informatics Training Program |
| 2013 | Rick Jordan – Biomedical Informatics Training Program |
| 2013 | Yuriy Sverchkov – Intelligent Systems Program |
| 2014 | Henry Ogoe – Biomedical Informatics Training Program |
| 2014 | Mahdi Pakdaman Naeini – Intelligent Systems Program |
| 2015 | Amie Draper – Biomedical Informatics Training Program |
| 2016 | Andrew King – Biomedical Informatics Training Program |
| 2016 | Victor Ruiz Herrera – Biomedical Informatics Training Program |
| 2016 | Gaurav Trivedi – Intelligent Systems Program |
| 2016 | Diyang Xue – Intelligent Systems Program |
| 2017 | Jeya Balasubramanian – Intelligent Systems Program |
| 2017 | Fattaneh Jabbari – Intelligent Systems Program |
| 2017 | Sanghoon Lee – Biomedical Informatics Training Program |
| 2018 | Luca Calzoni – Biomedical Informatics Training Program |
| 2018 | Pritika Dasgupta – Biomedical Informatics Training Program |
| 2022 | Saba Dadsetan – Intelligent Systems Program |
| 2022 | Ke Yu – Intelligent Systems Program |
| 2023 | Sonish Sivarajkumar – Intelligent Systems Program |

*Mentee Achievements:*

|  |  |
| --- | --- |
| 2010, 2011 | Chad Kimmel, doctoral student, Biomedical Informatics Training Program, University of Pittsburgh – awarded a TL1 Pre-Doctoral Fellowship in Clinical and Translational Research |
| 2011 | An-kwok Ian Wong, doctoral student, Intelligent Systems Program – awarded Scholarship in Medical Student Training in Aging Research (MSTAR) Program |
| 2013 | Eric V. Strobl, doctoral student, MSTP – awarded the Best Poster prize for Deep learning and causal discovery at the 2013 BMI Training Program Retreat |
| 2013 | Matthew Stokes, doctoral student, Intelligent Systems Program – awarded the Best Paper prize at the 2013 BMI Training Program Retreat |
| 2013 | Matthew Stokes, doctoral student, Intelligent Systems Program – invited to present his work on “Feature selection for biomarker discovery in genome-wide SNP data” at the meeting of the NLM Board of Regents |
| 2014 | Eric V. Strobl, doctoral student, MSTP – awarded the Best Paper prize at the 2014 BMI Training Program Retreat |
| 2017 | Eric V. Strobl, doctoral student, MSTP – awarded the Roth Fellowship by Department of Psychiatry, University of Pittsburgh |
| 2018 | Eric V. Strobl, doctoral student, MSTP – awarded the Drs. S. Sutton Hamilton MSTP Scholar Award by the MSTP, University of Pittsburgh |
| 2019 | Amir Mina, medical student, MSTP – finalist in the 2019 Michael G. Wells Student Healthcare Entrepreneurship Competition, University of Pittsburgh |
| 2020 | Mohammadamin Tajgardoon, doctoral student, Intelligent Systems Program – awarded Provost Fellowship in the Intelligent Systems Program, University of Pittsburgh |
| 2023 | Rahul Chaudhary, MS student, Intelligent Systems Program – awarded Clinical Transformation Program grant, The Beckwith Institute |

**RESEARCH**

**Current Grant Support:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Grant Number**  **(funded)** | **Grant Title** | **Role in Project**  **% Effort** | **Years Inclusive** | **Source**  **$ Amount** |
| UL1 TR001857  NIH/NCATS  (Reis) | Informatics Core, Clinical and Translational Science Institute | Director  2.40 calendar | 07/01/2016-05/31/2026 | NIH/NCATS  $9,265,104 |
| OT2 OD026554  NIH  (Reis, Visweswaran) | All of Us Pennsylvania | PD/PI  2.40 calendar | 02/08/2018-02/29/2024 | NIH  $2,735,691  ($1,748,714 directs + $986,977 indirects) |
| U01 TR002623  NIH/NCATS  (Mandl) | Instrumenting the Delivery System for a Genomic Research Information Commons | Co-I  1.20 calendar | 07/31/2019-06/30/2025 | NIH/NCATS  $354,867 |
| R01 LM013345  NIH/NLM  (Weber) | Biases Introduced by Filtering Electric Health Records for Patients with “Complete Data” | Co-I  0.30 calendar | 09/04/2020-08/31/2024 | NIH/NLM  $147,393 |
| OT2 HL161847  NIH/NHLBI  (Haendel) | Post-Acute Sequelae of SARS-CoV-2 Infection Initiative: NYU Langone Health Clinical Science Core, Data Resource Core | Co-I  1.20 calendar | 10/01/2021- 05/23/2024 | NIH/NHLBI  $94,000 |
| U24 TR004111  NIH/NCATS  (Reis, Visweswaran) | ENACT: Translating Health Informatics Tools to Research and Clinical Decision Making | PD/PI  2.40 calendar | 08/01/2022- 05/31/2027 | NIH/NCATS  $4,664,452  ($3,558,747 directs + $1,105,705  indirects) |
| ABFM Foundation  (Maier) | Growing Primary Care Informatics using AI/ML to Understand Patients Not Just Diseases | Co-I  0.00 calendar (donated) | 09/01/2022- 08/31/2026 | ABFM Foundation  $500,000 |
| R01 EB032752  NIH/NIBIB  (Hauskrecht, Clermont, Huang) | Learning Alerting Models for Clinical Care from EMR Data and Human Knowledge | Co-I  0.60 calendar | 09/30/2022-06/30/2026 | NIH/NIBIB  $2,525,828 (total) |
| R01 NS098023  NIH/NINDS  (Xia) | Leveraging Electronic Health Records to Optimize Treatment Selection and Response in Multiple Sclerosis | Co-I  0.60 calendar | 09/01/2022-08/31/2027 | NIH/NINDs  $3,761,522 (total) |
| PCORI  (Bailey) | Coordinating Center: Participatory Approach to Query Fulfillment and Analytic Tool Development | Co-I  0.6 calendar | 01/01/2023- 12/31/2024 | PCORI  $183,923 (total) |
| The Beckwith Institute  (Chaudhary) | Machine Learning Based Clinical Decision Support to Predict Bleeding Risk in Patients with Atrial Fibrillation on Direct Oral Anticoagulants | Mentor  0.00 calendar (donated) | 07/01/2023-06/30/2024 | UPMC |

**Pending Grant Support:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Grant Number**  **(funded)** | **Grant Title** | **Role in Project**  **% Effort** | **Years Inclusive** | **Source**  **$ Amount** |
| U01  NIH/NCATS  (Liu, Wang) | Open Health Natural Language Processing Collaborative towards Fair and Inclusive Clinical and Translational Research | Co-I  0.60 calendar | 01/12/2023-01/11/2028 | NIH/NCATS  $993,750 (total) |

**Prior Grant Support:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Grant Number**  **(funded)** | **Grant Title** | **Role in Project**  **% Effort** | **Years Inclusive** | **Source**  **$ Amount** |
| U24 TR002306  NIH/NCATS  (Haendel, Chute) | CD2H - National COVID Cohort Collaborative (N3C) Supplement | Co-I  0.36 calendar | 07/21/2020- 07/20/2023 | NIH/NCATS  $63,685 |
| Center for Commercial Applications of Healthcare Data  UPMC Enterprises  (Thirumala) | Realtime Evaluation for Adverse Events using Intraoperative Neurophysiological Monitoring (READE IONM) | Co-PI  1.80 calendar | 06/01/2020-05/31/2022 | UPMC Enterprises  $396,615 |
| R01 LM012605  NIH/NLM (NCE)  (Schleyer) | Enhancing Information Retrieval in Electronic Health Records through Collaborative Filtering | Co-I  0.60 calendar | 06/01/2018-04/30/2022 | NIH/NLM  $51,537 |
| R01 CA225773  NIH/NCI  (Primack) | Leveraging Twitter to Monitor Nicotine and Tobacco-Related Cancer Communication | Co-I  1.20 calendar | 03/01/2018-02/28/2022 | NIH/NCI  $130,992 |
| UL1 TR001857-01S1  NIH/NCATS  (Reis) | ACT (Accrual to Clinical Trials) network | Co-I  1.20 calendar | 09/23/2016-05/31/2021 | NIH/NCATS  $2,056,667 |
| R35 GM119519  NIH/NIGMS  (Seymour) | Sepsis Endotyping Using Clinical and Biological Data | Co-I  0.30 calendar | 08/02/2016-05/31/2021 | NIH/NIGMS  $44,038 |
| R01 LM012095  NIH/NLM  (Visweswaran) | Development and Evaluation of a Learning Electronic Medical Record System | PI  4.80 calendar | 09/15/2015-06/30/2020 | NIH/NLM  $1,303,317  ($884,052 directs + $419,265 indirects) |
| R35 HL144804  NIH/NHLBI  (Kahn) | Organizational Strategies for Improving Evidence-Uptake in Intensive Care | Co-I  1.20 calendar | 01/21/2019-12/31/2019 | NIH/NHLBI  $35,740 |
| R01 GM088224  NIH/NIGMS  (Hauskrecht, Clermont, Cooper) | Detecting Deviations in Clinical Care in ICU Data Streams | Co-I  0.96 calendar | 01/01/2014-11/30/2019 | NIH/NIGMS  $323,029 |
| U54 HG008540  NIH  (Cooper, Bahar, Berg) | Center for Causal Modeling and Discovery of Biomedical Knowledge from Big Data | Co-I  1.20 calendar | 09/15/2014-08/31/2019 | NIH  $142,194 |
| UG3 OD023153-01S1  NIH  (Reis, Visweswaran, Marroquin) | Precision Approach to healthCARE enrollment Site (PA CARES) | PD/PI  1.80 calendar | 07/06/2016-02/07/2018 | NIH  $941,239  ($612,914 directs + $328,325 indirects) |
| UL1 TR00005  NIH/NCATS  (Reis) | Informatics Core, Clinical and Translational Science Institute | Co-Director  2.40 calendar | 07/01/2015-06/30/2016 | NIH/NCATS  $252,763 |
| CDRN 1306-04912  PCORI  (McTigue) | A PaTH Towards a Learning Health System in the Mid-Atlantic Region | Co-I  1.20 calendar | 01/01/2014-06/30/2016 | PCORI  $57,362 |
| T15 LM007059  NIH/NLM  (Crowley) | Pittsburgh Biomedical Informatics Training Program | Co-I  0.60 calendar | 07/01/2012-06/30/2016 | NIH/NLM/NICDR  $32,000 |
| UL1 TR00005-09S1  NIH/NLM  (Reis) | CTS Acts (Clinical and Translational Science Accrual to Clinical Trials) | Co-I  3.00 calendar | 07/01/2014-06/30/2015 | NIH/NCATS  $286,411 |
| R01 GM100387  NIH/NIGMS  (Gopalakrishnan) | Transfer Rule Learning for Knowledge Based Biomarker Discovery and Predictive Biomedicine | Co-I  2.40 calendar | 07/01/2012-06/30/2015 | NIH/NIGHMS  $28,042 |
| R01 LM010950  NIH/NLM  (Gopalakrishnan) | Bayesian Rule Learning Methods for Disease Prediction and Biomarker Discovery | Co-I  1.20 calendar | 08/15/2011-06/30/2015 | NIH/NLM  $30,886 |
| W81XWH-11-0133  DOD  (Dunn) | Framework for Smart Electronic Health Record-Linked Predictive Models to Optimize Care for Complex Digestive Diseases | Co-I  2.40 calendar | 07/01/2010-06/30/2014 | DOD  $85,911 |
| HHSN 276201000030C  NIH/NLM  (Visweswaran)  (funding from the American Recovery and Reinvestment Act (ARRA)) | Optimal Influenza Vaccine Strain Selection | PI  3.00 calendar | 09/27/2010-09/26/2012 | NIH/NLM  $299,901  ($197,955 directs + $101,946 indirects) |
| ICRE Predoctoral Fellowship  NIH/NCATS  (Kimmel) | Identification of Genetic and Environmental Factors of Disease from Literature | Mentor  0.00 calendar  donated | 07/01/2010-06/30/2011 | University of Pittsburgh  $22,976 |
| T15 LM007059-24S1  NIH/NLM  (Crowley) | Pittsburgh Biomedical Informatics Training Program NLM 2010 Curriculum Supplement | Co-I  0.60 calendar | 07/01/2010-06/30/2011 | NIH/NLM/NIDCR  $216,000 |

**Other Research Related Activities:**

*Patents and Copyrights*:

1. **Visweswaran S**. A Rule-Based Expert System to Detect Adverse Drug Reactions in the Nursing Home Setting. Copyright protection was awarded by the University of Pittsburgh on 18 October 2007. Pitt Ref No. 01586.
2. Bhavnani SK, Bassler KE, **Visweswaran S**. Computer-Implementable Algorithms for Biomarker Discovery Using Bipartite Networks. Application filed to the United States Patent and Trademark Office on 14 March 2013. US Patent No. US20130245959A1. Status: abandoned.
3. Hauskrecht M, Cooper GF, Clermont G, **Visweswaran S**. A System for Alerting on Unusual Patient-Care Management Based on Machine Learning of Usual Patient-Care Management. Invention disclosure application filed to the University of Pittsburgh on 24 November 2014. Pitt Ref No. 03454.
4. **Visweswaran S**, Cooper GF, Hochheiser HS, King AJ. Learning Electronic Medical Record System. Invention disclosure application filed to the University of Pittsburgh on 23 July 2015. Pitt Ref No. 03676.
5. Hochheiser HS, **Visweswaran S**, Trivedi G, Hong C, Handzel R, Dadashzadeh E. Automation of Useful Secondary Findings from Radiology and Pathology Reports. Copyright protection was awarded by the University of Pittsburgh on 9 November 2018. Pitt Ref No. 04737.
6. Thirumala P, Mina A, **Visweswaran S**. Realtime Evaluation for Adverse Events using Intraoperative Neurophysiological Monitoring (READE IONM). Invention disclosure application filed to the University of Pittsburgh on 7 April 2019. Pitt Ref No. 04944.
7. Triantafyllou S, **Visweswaran S**. THRESHOLD: Improving treatment guidelines with regression discontinuity designs. Invention disclosure application filed to the University of Pittsburgh on 18 April 2019. Pitt Ref No. 04963.
8. Hauskrecht M, Clermont G, Cooper GF, Malakouti S, Hong C, Luo Z, Barren MP, Liu S, **Visweswaran S**. Real-time Clinical Monitoring and Alerting System. Invention disclosure application filed to the University of Pittsburgh on 15 May 2019. Pitt Ref No. 04995.
9. Lu X, Cai C, Cooper GF, **Visweswaran S**. Identification of Somatic Gene Alterations with Functional Impact. Application filed to the United States Patent and Trademark Office on 13 November 2017. US Patent No. US2019/0287651 A1. Publication date: 19 September 2019.
10. **Visweswaran S**, Thirumala PD, Batmanghelich K, Espino JU. Intraoperative Electroencephalogram (EEG) Data Parser Tool. Invention disclosure application filed to the University of Pittsburgh on 21 July 2021. Pitt Ref No. 05767.
11. **Visweswaran S**, Thirumala PD, Batmanghelich K, Espino JU. Machine Learning Development and Application for Real-Time Detection of Ischemia and Stroke During Surgery. Invention disclosure application filed to the University of Pittsburgh on 23 July 2021. Pitt Ref No. 05769.
12. **Visweswaran S**, Thirumala PD, Batmanghelich K, Espino JU. Intraoperative Electroencephalogram (EEG) Display Tool. Invention disclosure application filed to the University of Pittsburgh on 19 May 2022. Pitt Ref No. 06032.
13. **Visweswaran S**, Thirumala PD, Batmanghelich K, Espino JU. Code for Intraoperative Electroencephalogram (EEG) Data Parser Tool. Invention disclosure application filed to the University of Pittsburgh on 19 May 2022. Pitt Ref No. 06033.
14. **Visweswaran S**, Thirumala PD, Batmanghelich K, Espino JU. Code for Machine Learning Development and Application for Real-Time Detection of Ischemia and Stroke During Surgery. Invention disclosure application filed to the University of Pittsburgh on 19 May 2022. Pitt Ref No. 06034.
15. **Visweswaran S**, Thirumala PD, Batmanghelich K, Espino JU. Code for Intraoperative Electroencephalogram (EEG) Display Tool. Invention disclosure application filed to the University of Pittsburgh on 20 May 2022. Pitt Ref No. 06037.
16. **Visweswaran S**, Espino JU, Batmanghelich K, Thirumala PD, Mina A. Machine learning techniques for detecting reduced blood flow conditions. Application filed to the United States Patent and Trademark Office on 9 September 2022. Application No. PCT/US2022/043085.
17. Reis SE, **Visweswaran S**, Mathias D. Anesthesia induction tool. Invention disclosure application filed to the University of Pittsburgh on 1 December 2022. Pitt Ref No. 06234.
18. **Visweswaran S**, Espino JU, Batmanghelich K Thirumala PD, Mina A. Machine Learning Techniques for Detecting Reduced Blood Flow Conditions. Application filed to the United States Patent and Trademark Office on 9 September 2022. US Patent No. US 2023/0080348 A1. Publication date: 16 March 2023.
19. Subramanian H, **Visweswaran S**, Mathias D. A dynamic medical educational platform based on synthetic patient data. Invention disclosure application filed to the University of Pittsburgh on 29 November 2023. Pitt Ref No. 06579.

*Companies:*

|  |  |
| --- | --- |
| 2018 – present | Co-founder of Kvatchii, Inc., UK |
| 2021 – present | Co-founder of READE.ai, Inc., USA |
| 2023 – present | Chief Medical Officer, ThetaRho, Inc., USA |

*Journal Editorial Boards*:

|  |  |
| --- | --- |
| 2007 – present | International Journal of Medical Engineering and Informatics |
| 2017 – present | Artificial Intelligence in Medicine |
| 2020 – present | Journal of Biomedical Informatics |

*Journal Special Issue Editorship*:

|  |  |
| --- | --- |
| 2021 | Best practices in research patient data repositories in the Journal of the American Medical Informatics Association |
| 2023 | Special issue on fairness and inclusion in biomedical informatics research: technical and social perspectives in the Journal of Biomedical Informatics |

*Journal Refereeing*:

|  |  |
| --- | --- |
| 2005 – present | Artificial Intelligence in Medicine |
| 2007 | PLoS Medicine |
| 2009 | IEEE Transactions on Information Theory |
| 2009 – 2013 | Computers in Biology and Medicine |
| 2009 – 2010 | PLoS Computational Biology |
| 2010 – 2015 | Medical Decision Making |
| 2010 – 2022 | PLoS ONE |
| 2011 | Science Translational Medicine |
| 2011 – present | Journal of Biomedical Informatics |
| 2012 | IIE Transactions on Healthcare Systems Engineering |
| 2012 | Annals of Neurology |
| 2012 – 2013 | Statistics in Medicine |
| 2012 – present | Journal of the American Medical Informatics Association |
| 2013 | Journal of Pathology Informatics |
| 2013 – 2015 | PeerJ |
| 2014 – present | Applied Clinical Informatics |
| 2015 | Translational Medicine |
| 2018 | Learning Health Systems |
| 2019 – 2022 | Journal of Medical Internet Research |
| 2020, 2022 | Nature Medicine |
| 2020 | Nature Communications |
| 2022 | IMIA Yearbook of Medical Informatics |

*Conference Refereeing*:

|  |  |
| --- | --- |
| 2006 | Conference on Uncertainty in Artificial Intelligence |
| 2007 – present | AMIA Annual Symposium |
| 2011 | International Joint Conference on Artificial Intelligence |
| 2011 | AMIA Summit on Translational Bioinformatics |
| 2011, 2015 | Conference on Artificial Intelligence in Medicine (AIME) |
| 2012 – present | AMIA Informatics Summit |
| 2012 | International Conference on Machine Learning (ICML) |
| 2013 | Twenty-Seventh Conference on Artificial Intelligence (AAAI-13) |
| 2013 – 2014 | The IEEE International Conference on Bioinformatics and Biomedicine (BIBM) |
| 2019 – present | AMIA Clinical Informatics Conference |
| 2019 – 2021 | IEEE International Conference on Healthcare Informatics (ICHI) |

*Extramural Grant Reviewing*:

|  |  |
| --- | --- |
| 2010 | Reviewer, Medical Research Council, London, UK |
| 2011 | NSF, Reviewer, Smart Health and Wellbeing Review Panel |
| 2012 | NSF, Reviewer, Smart Health and Wellbeing Review Panel  Reviewer, University of Pittsburgh, Small Grants Program, Central Research Development Fund |
| 2016 | NSF, External Reviewer, CISE Research Initiation Initiative (CRII)  NIH, *Ad hoc* Reviewer, Precision Medicine Review Meeting, Special Emphasis Panel ZTR1-SRC-99 |
| 2018 | NSF, *Ad hoc* Reviewer, NSF CAREER Panel P190145  NIH, *Ad hoc* Reviewer, NLM Special Emphasis Panel ZLM1 ZH-C (01)  NIH, *Ad hoc* Reviewer, NLM Special Emphasis Panel ZLM1 YW-C (01)  NIH, *Ad hoc* Reviewer, NIBIB Special Emphasis Panel ZEB1 OSR-E (J1) S |
| 2019 | NIH, *Ad hoc* Reviewer, NLM Special Emphasis Panel ZLM1 YW-C (01)  NIH, *Ad hoc* Reviewer, NCATS Biomedical Data Translator: Development |
| 2020 | NIH, *Ad hoc* Reviewer, NLM Special Emphasis Panel ZLM1 YW-C (01)  NIH, *Ad hoc* Reviewer, NIGMS Special Emphasis Panel ZGM1 TWD-9-KR  NIH, *Ad hoc* Reviewer, NIGMS Special Emphasis Panel ZRG1 HDM-E-90  NIH, *Ad hoc* Reviewer, NLM Emergency Awards: RADx-rad Data Coordination Center (U24) ZRG1 BST-W-50 |
| 2021 | NIH, *Ad hoc* Reviewer, NIAID Special Emphasis Panel ZAI1-IS-W (S2) Emergency Awards: Rapid Investigation of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and Coronavirus Disease 2019 (COVID-19)  NIH, *Ad hoc* Reviewer, NLM Special Emphasis Panel ZLM1 LT-C (01)  NIH, *Ad hoc* Reviewer, Neurological, Aging and Musculoskeletal Epidemiology (NAME) Study Section |
| 2022 | NIH, *Ad hoc* Reviewer, NLM COI-K99-CURATION/R01 ZLM1 RV-C(01)  NIH, *Ad hoc* Reviewer, NLM G08 Special Emphasis Panel 2022/05 ZLM1 JL-G (01)  NIH, *Ad hoc* Reviewer, 2022/10 Clinical Informatics and Digital Health (CIDH) Study Section |
| 2023 | NIH, *Ad hoc* Reviewer, NLM COI-R01-G08-R13/R01 ZLM1 RV-C(01)  NIH, *Ad hoc* Reviewer, 2023/08 ZRG1 IVBH-A (50) R - Enhancing the Use of the All of Us Research Program’s Data  NIH, Standing Panel Member, Clinical Informatics and Digital Health (CIDH) Study Section |

*Press*:

|  |  |
| --- | --- |
| 2012 | Savage N. Better Medicine Through Machine Learning. Communications of the ACM (Vol. 55 No. 1, January 2012) |
| 2012 | Powerful new method to analyze genetic data. Science Daily (12 June 2012) http://www.sciencedaily.com/releases/2012/06/120612115944.htm |
| 2013 | Miksch J. A computer guy’s take on personalized medicine. PittMed (Summer 2013) |
| 2016 | Pitt Receives Prestigious NIH Award to Support Development of Million-Person Precision Medicine Study. University of Pittsburgh Health Sciences Media Relations. |
| 2018 | One Million Wanted: Pitt, UPMC To Recruit PA Residents For National Study. 90.5 WESA. Pittsburgh's NPR News Station http://wesa.fm/post/one-million-wanted-pitt-upmc-recruit-pa-residents-national-study#stream/0 |
| 2018 | ‘All of Us’ Million Person Precision Medicine Initiative Launches, Seeks Volunteers. University of Pittsburgh Health Sciences Media Relations. |
| 2021 | Gidwani K. Artificial Intelligence in the Medical Field. The Pitt Pulse. Volume XI, Issue 3. http://www.thepittpulse.org/artificial-intelligence-in-the-medical-field |
| 2022 | AI & ML in Healthcare Symposium Highlights Pittsburgh’s Potential. https://www.jhf.org/news-blog-menu/entry/ai-ml-in-healthcare-symposium-highlights-pittsburgh-s-potential |

**LIST of CURRENT RESEARCH INTERESTS**

1. Artificial intelligence-enabled clinical decision support
2. Race-based clinical algorithms
3. Patient-specific modeling
4. Causal discovery from biomedical data
5. Research data warehousing
6. Ontology development

**INVITED SEMINARS AND LECTURESHIPS**

**Local Presentations:**

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| 08/2003 | **Visweswaran S**. Adverse drug events detection in discharge summaries. Presentation at the *Faculty and Trainees Poster Session: Sampler of Key Research Areas*. *Pittsburgh Biomedical Informatics Training Program Annual Retreat*. University of Pittsburgh, Pittsburgh, PA. |
| 01/2006 | **Visweswaran S**. Patient-specific models for predicting the outcomes of patients with community acquired pneumonia. Presentation at the *Biomedical Informatics Colloquium Series*. University of Pittsburgh, Pittsburgh, PA. |
| 09/2008 | **Visweswaran S**. Personalized medicine in the era of genomics. Presentation at the *Biomedical Informatics Colloquium Series*. University of Pittsburgh, Pittsburgh, PA. |
| 09/2011 | **Visweswaran S**. Patient-specific modeling. Presentation at the *Intelligent Systems Program (ISP) AI Seminar*. University of Pittsburgh, Pittsburgh, PA. |
| 09/2013 | **Visweswaran S**. Genomics: Current and future. Presentation at the *Biomedical Informatics Colloquium Series*. University of Pittsburgh, Pittsburgh, PA. |
| 08/2015 | **Visweswaran S**. Building the Accrual of patients to Clinical Trials (ACT) network. Presentation at the *Pittsburgh Biomedical Informatics Training Program Annual Retreat*. University of Pittsburgh, Pittsburgh, PA. |
| 02/2016 | **Visweswaran S**. Personalized modeling for prediction with decision-path models. Presentation at the *Critical Care Medicine Weekly Research Conference*. University of Pittsburgh, Pittsburgh, PA. |
| 05/2016 | **Visweswaran S**. Interoperability, Health Information Exchanges and Clinical Data Research Networks. Presentation at the *Big Data and Healthcare Analytics – A Path to Personalized Medicine*. University of Pittsburgh, Pittsburgh, PA. |
| 10/2016 | **Visweswaran S**. The Precision Medicine Initiative and personalized modeling for precision medicine. Presentation at the *Spotlight Session 5: Personalized and Precision Medicine, Science 2016*. University of Pittsburgh, Pittsburgh, PA. |
| 10/2016 | **Visweswaran S**. The Precision Medicine Initiative and personalized modeling for precision medicine. Presentation at the *Health Services Research Seminar*. University of Pittsburgh, Pittsburgh, PA. |
| 11/2016 | **Visweswaran S**. Center for Causal Discovery (CCD) of Biomedical Knowledge from Big Data. Presentation at the *q-Bio event: Celebrating Pittsburgh's Biomedical Modeling Community*. University of Pittsburgh, Pittsburgh, PA. |
| 03/2017 | **Visweswaran S**. Artificial intelligence in medicine. Presentation at the *University of Pittsburgh Medical Scientist Training Program Workshop*. University of Pittsburgh, Pittsburgh, PA. |
| 10/2017 | **Visweswaran S**. Reuse of electronic medical record (EMR) data. Presentation at the *Spotlight Session 2: Big Data, Machine Learning, and Artificial Intelligence, Science 2017*. University of Pittsburgh, Pittsburgh, PA. |
| 04/2018 | **Visweswaran S**. Developing patient-specific predictive models. Presentation at the *CRISMA Biostatistical and Data Management Core Speaker Series*. University of Pittsburgh, Pittsburgh, PA. |
| 05/2018 | **Visweswaran S**. Development of a Learning Electronic Medical Record system. Presentation at the *Department of Neurology Grand Rounds Series*. University of Pittsburgh, Pittsburgh, PA. |
| 09/2018 | **Visweswaran S**. A Learning Electronic Medical Record (LEMR) system to selectively highlight patient information. Presentation at the *Biostatistics and DBMI Joint Mini-Retreat*. University of Pittsburgh, Pittsburgh, PA. |
| 12/2018 | **Visweswaran S,** Silverstein J. The Center for Clinical Research Informatics (CCRI) & the Research Informatics Office (RIO). Presentation at the *Biomedical Informatics Colloquium Series*. University of Pittsburgh, Pittsburgh, PA. |
| 10/2019 | Becich MJ, Silverstein J, **Visweswaran S**. Data Sharing Networks supported by Neptune and R3: Roadmap for Access for Your Research. Presentation at the *Biomedical Informatics Colloquium Series*. University of Pittsburgh, Pittsburgh, PA. |
| 03/2021 | **Visweswaran S**. Artificial Intelligence in Clinical Medicine. Presentation at the *SCI-DBMI-ISP Faculty Retreat*. University of Pittsburgh, Pittsburgh, PA. |
| 11/2021 | **Visweswaran S**. A learning electronic medical record system for identifying relevant patient data. Presentation at the *Biomedical Informatics Colloquium Series*. University of Pittsburgh, Pittsburgh, PA. |
| 05/2022 | **Visweswaran S**. A learning EMR system towards improving patient safety. Presentation at the *Artificial Intelligence/Machine Learning in Healthcare - Fostering Academic Partnerships with the DoD & Industry*. University of Pittsburgh, Pittsburgh, PA. |
| 01/2024 | **Visweswaran S**. Towards deployment of AI-based clinical decision support. Presentation at the *Dean's Spotlight Series 2024*. School of Computing and Information. University of Pittsburgh, Pittsburgh, PA. |

**Regional Presentations:**

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| 10/2005 | **Visweswaran S**. Patient-specific predictive modeling. Presentation at the *Machine Learning Lunch Seminar*. Carnegie Mellon University, Pittsburgh, PA. |
| 11/2017 | **Visweswaran S**. A learning electronic medical record system: Providing decision support using machine learning. Presentation at the *STEM Junction Symposium*. Fox Chapel Area High School, Pittsburgh, PA. |
| 09/2019 | Ford D, Becich MJ, **Visweswaran S**, Williams D. PaTH Panel: Processes/resources from other networks and thoughts on how to leverage them. *PaTH Face-to-Face Meeting*. University of Pittsburgh, Pittsburgh, PA. |

**National Presentations:**

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| 11/2003 | **Visweswaran S**, Hanbury P, Saul M, Cooper GF. Detecting adverse drug events in discharge summaries using variations on the simple Bayes model. Paper presentation at the *AMIA Annual Symposium*. Washington, DC. |
| 06/2004 | **Visweswaran S**. Learning patient-specific models for predicting outcomes under uncertainty. Presentation at the *NLM Informatics Training Conference*. Indianapolis, IN. |
| 12/2004 | **Visweswaran S**, Cooper GF. Instance-specific Bayesian model averaging for classification. Poster presentation at the *Advances in Neural Information Processing Systems*. Vancouver, Canada. |
| 10/2005 | **Visweswaran S**, Cooper GF. Patient-specific models for predicting the outcomes of patients with community acquired pneumonia. Paper presentation at the *AMIA Annual Symposium*. Washington, DC. |
| 11/2009 | **Visweswaran S**, Wong AI, Barmada MM. A Bayesian method for identifying genetic interactions. Paper presentation at the *AMIA Annual Symposium*. San Francisco, CA. |
| 11/2010 | **Visweswaran S**, Mezger J, Clermont G, Hauskrecht M, Cooper, GF. Identifying deviations from usual medical care using a statistical approach. Paper presentation at the *AMIA Annual Symposium*. Washington, DC. |
| 08/2013 | **Visweswaran S**. Genomics: Current and future. Presentation at the *Scientific Session of the* *Fourteenth Biennial JIPMER Alumni Association of North America (JAANA) Meet*. Boston, MA. |
| 07/2014 | **Visweswaran S**. Patient-specific prediction with decision-path models. Presentation at the *University Showcase, NLM Informatics Training Conference*. University of Pittsburgh, Pittsburgh, PA. |
| 10/2014 | **Visweswaran S**. Data Harmonization Work Group Presentation. Presentation at the *Accrual to Clinical Trials (ACT) Wave 1 Face to Face Meeting*. Hilton Chicago O’Hare Airport, Chicago, IL. |
| 06/2015 | **Visweswaran S**. Data Harmonization Work Group Presentation. Presentation at the *Accrual to Clinical Trials (ACT) Data Harmonization Face to Face Meeting*. Hilton Chicago O’Hare Airport, Chicago, IL. |
| 03/2016 | **Visweswaran S**, Tenenbaum J, Gouripeddi R. Secondary use of data for research - EHR, omics and environmental data. Panel presentation at the *AMIA Joint Summits on Translational Science*. San Francisco, CA. |
| 04/2017 | **Visweswaran S**. Data Harmonization Work Group Update. Presentation at the *Accrual to Clinical Trials (ACT) Data Harmonization Face to Face Meeting*. Omni Shoreham Hotel, Washington, DC. |
| 10/2017 | Borromeo C, **Visweswaran S**. Data Harmonization Work Group Update. Presentation at the *Accrual to Clinical Trials (ACT) Data Harmonization Face to Face Meeting*. University of California San Diego, San Diego, CA. |
| 11/2017 | Bhavnani SK, Ayyaswamy A, Chen T, **Visweswaran S**, Bellala G, Bassler KE. Vicinity exploration: Enabling user-driven visual search of multiple machine learning models for precision medicine. System demonstration at the *AMIA Annual Symposium*. Washington, DC. |
| 04/2018 | MacFadden D, Trevvett P, **Visweswaran S**, Morris M. Understanding ACT Data: What do my Query Results Mean? Presentation at the *Accrual to Clinical Trials (ACT) Data Harmonization Face to Face Meeting*. Omni Shoreham Hotel, Washington, DC. |
| 05/2018 | Tajgardoon, M, **Visweswaran S**. Patient-specific explanations from risk prediction models. Presentation at the *AMIA 2018 Clinical Informatics Conference*. Scottsdale, AZ. |
| 05/2018 | **Visweswaran S**. Developing a Learning Electronic Medical Record system. Presentation at the *AMIA 2018 Clinical Informatics Conference*. Scottsdale, AZ. |
| 03/2019 | **Visweswaran S**, Murphy SN, MacFadden D, Anderson NR. Accrual to Clinical Trials (ACT): A Clinical and Translational Science Award Consortium network. Late Breaking Panel presentation at the *AMIA Joint Summits on Translational Science*. San Francisco, CA. |
| 05/2019 | **Visweswaran S**. Using eye-tracking to support a Learning Electronic Medical Record system. Presentation at the *AMIA 2019 Clinical Informatics Conference*. Atlanta, GA. |
| 06/2019 | **Visweswaran S**. A Learning Electronic Medical Record system to highlight relevant patient information. Presentation at the *Un-Meeting: Machine Learning & Artificial Intelligence Applications in Translational Science*. Rochester, NY. |
| 09/2019 | **Visweswaran S**. Application of machine learning to highlight relevant patient information in the EMR. Presentation at *HIDS 501: Introduction to Health Data Science & Analytics*. Georgetown University, Washington, DC. |
| 10/2019 | **Visweswaran S**. Promise and potential of machine learning and Electronic Health Records to transform healthcare. Keynote speaker at *AI in Healthcare Conference*. Penn State College of Medicine, Hershey, PA. |
| 10/2019 | **Visweswaran S**. Artificial intelligence in medicine. Presentation at the *Principles and Practice of Intraoperative Neuromonitoring* course. University of Pittsburgh, Pittsburgh, PA. |
| 10/2019 | **Visweswaran S**. Machine learning to highlight relevant patient information in the EMR. Presentation at the *19th General Meeting of the Health Services Platform Consortium (HSPC)* and the *Clinical Information Interoperability Council (CIIC)*. University of Pittsburgh, Pittsburgh, PA. |
| 11/2019 | Bhavnani S, Clark C, Kummerfeld E, Penton R, **Visweswaran S**. Team-centered informatics: A necessary adaptation to translational and implementation science? Panel presentation at the *AMIA Annual Symposium*. Washington, DC. |
| 11/2019 | Campion T, Carroll R, Grand J, Natarajan K, **Visweswaran S**. Curating EHR data in the All of Us Research Program. Panel presentation at the *AMIA Annual Symposium*. Washington, DC. |
| 03/2020 | **Visweswaran S** (Chair), Liu M, Manukonda P. Research Data Warehousing (RDW) Panel. Panel presentation at the *CTSA Informatics Virtual Meeting*. |
| 05/2020 | Nadler L, MacFadden, D, **Visweswaran S**, Murphy SN. Using the ACT network to gain insight into COVID-19. Presentation at the *AMIA COVID-19 Webinar Series*. |
| 05/2020 | Walker LW, Norwalk AJ, **Visweswaran S**. Machine learning predicts catheter salvage in pediatric central line-associated bloodstream infection. Presentation at the *AMIA 2020 Virtual Clinical Informatics Conference*. |
| 06/2020 | MacFadden D, **Visweswaran S**, Murphy SN. Introduction to ACT and the ACT COVID Network. Presentation at the *i2b2 tranSMART Foundation's 2020 Harvard Virtual Conference*. |
| 06/2020 | Sendro E, **Visweswaran S**, Morris M, Klann JG, Murphy SN. ACT COVID Work. Presentation at the *i2b2 tranSMART Foundation's 2020 Harvard Virtual Conference*. |
| 10/2020 | **Visweswaran S**. A learning electronic medical record system for identifying relevant patient data. Presentation at *HIDS 501: Introduction to Health Data Science & Analytics*. Georgetown University, Washington, DC. |
| 11/2020 | Winkelstein P, Weiner M, Murphy SN, **Visweswaran S**, Harper J. Real world evidence panel - Where is it leading clinical research? Panel presentation at *the Virtual IT Roundtable*. |
| 11/2020 | **Visweswaran S.** Artificial intelligence in medicine and IONM. Presentation at the *Principles and Practice of Intraoperative Neuromonitoring* course. University of Pittsburgh, Pittsburgh, PA. |
| 04/2021 | Firestein G, **Visweswaran S**. The power of data networks. Presentation at the *2021 Informatics Seminar Series*. School of Medicine and Public Health. University of Wisconsin–Madison, Madison, WI. |
| 04/2021 | **Visweswaran S**. COVID-19 application ontology for ACT network. Lightening presentation at the *2021 Spring CTSA Program Group Meetings*. |
| 06/2021 | **Visweswaran S**. Meeting the challenge of i2b2 ontology deployment for the COVID-19 pandemic: ACT COVID-19 ontology. Presentation at the *i2b2 tranSMART Foundation's 2021 Harvard Virtual Conference*. |
| 07/2021 | **Visweswaran S**. Accrual to Clinical Trials (ACT) and COVID-19 ontology. Virtual presentation at the *Informatics Seminar*. Beth Israel Deaconess Medical Center, Boston, MA. |
| 10/2021 | **Visweswaran S**. A learning electronic medical record system for identifying relevant patient data. Presentation at *HIDS 501: Introduction to Health Data Science & Analytics*. Georgetown University, Washington, DC. |
| 11/2021 | **Visweswaran S.** Artificial intelligence in medicine and IONM. Presentation at the *Principles and Practice of Intraoperative Neuromonitoring* course. University of Pittsburgh, Pittsburgh, PA. |
| 03/2022 | Klann J, Handerson D, **Visweswaran S**, Estiri H, Murphy SN. Ensuring quality: a core competency of federated EHR data networks. Panel presentation at the *AMIA Informatics Summit*. Chicago, IL. |
| 03/2022 | **Visweswaran S,** Morris M**.** Want to identify cohorts seamlessly across data models? Try ACT. Ignite talk at the *AMIA Informatics Summit*. Chicago, IL. |
| 06/2022 | **Visweswaran S.** Research data warehouse & informatics services at Pitt/UPMC. Presentation to the *EDW4R Working Group, CTSA*. (virtual) |
| 09/2022 | **Visweswaran S**, Morris M, Klann, J, Sendro Gano E. ENACT Working Group. Presentation at the *i2b2 tranSMART Foundation's 2022 Harvard Symposium*. |
| 10/2022 | **Visweswaran S**. Data to information: computational models and analytic methods. Presentation at *Mental Health Informatics course*. University of San Francisco, San Francisco, CA. |
| 11/2022 | Harle HA, Meeker D, **Visweswaran S**, Campion TR, Knosp BM. Delivering real world patient data for clinical and translational research: approaches from four institutions. Panel presentation at the *AMIA Fall Symposium*. Washington, DC. |
| 04/09/2023 | **Visweswaran S**. Use Cases: ENACT. Presentation at the *2023 Spring CTSA Program Group Meetings*. Washington, DC. |
| 05/2023 | **Visweswaran S**. ACT to ENACT: Moving from cohort discovery to research. Presentation at the *COVID AI Meeting*. Boston, MA. |
| 09/2023 | **Visweswaran S** and Klann J. Next Generation ENACT Network. Presentation at the *i2b2 tranSMART Foundation's 2023 Harvard Symposium.* Boston, MA. |
| 10/2023 | **Visweswaran S**. Development of clinical decision support at an academic medical center. Presentation at the *HOBI Grand Rounds*. University of Florida College of Medicine, Gainesville, FL. |
| 10/2023 | Rose C, **Visweswaran S**, Wu S, Wu Y, Wang Y. ChatGPT for Medicine: Exploring the journey from the past to the present, and beyond. Panel at the *IEEE-EBMS International Conference on Biomedical and Health Informatics*. Pittsburgh, PA. |
| 11/2023 | **Visweswaran S**, Bertino J, Ashar U, Chee F. The Future of Healthcare in a World of AI. Panel at the *2023 Tech Ethics Symposium*. Carl G. Grefenstette Center for Ethics in Science, Technology, and Law, Duquesne University. Pittsburgh, PA. |
| 02/2024 | **Visweswaran S.** Racial Fairness in Clinical Algorithms. Presentation at the *ACMI 2024 Symposium*. Waikoloa Beach, HI. |

**International Presentations:**

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| 08/2008 | **Visweswaran S**. Personalized medicine: the future paradigm. Presentation at the *Scientific Session of the* *Annual Alumni Meet. Jawaharlal Institute of Post-Graduate Medical Education and Research* (JIPMER), Puducherry, India. |
| 05/2019 | **Visweswaran S**. Artificial intelligence in medicine. Presentation at the *Medical College of the University of the West Indies*. Cave Hill Campus, Barbados. |
| 10/2019 | **Visweswaran S**. Machine Learning Methods and Data Platforms. Presentation at the *Centre for Brain Research (CBR) Data Analysis Meeting, Indian Institute of Science*. Chicago, IL. |
| 02/2021 | **Visweswaran S**. Minds and Computers: Artificial Intelligence and the Physician. Presentation at the *Marvelous Medicine Series*. Chennai, India (virtual). |
| 07/2023 | Mina AI, Espino JU, Bradley AM, Thirumala P, Batmanghelich K, **Visweswaran S**. Time-series aware metrics for the evaluation of intraoperative electroencephalography-based ischemia detection. Presentation at *MedInfo 2023*. |

**SERVICE**

**Departmental Service:**

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| 2009 – present | Member, Core Faculty in Biomedical Informatics Training Program |
| 2009 – 2016 | Member, Executive Leadership Committee, Biomedical Informatics Training Program |
| 2009 – 2016 | Member, Admissions Committee, Biomedical Informatics Training Program |
| 2009 – 2016 | Member, Student Evaluation Committee, Biomedical Informatics Training Program |
| 2011 – 2016 | Member, Preliminary Examination Committee, Biomedical Informatics Training Program |
| 2016 – present | Member, Strategic Planning Committee, Department of Biomedical Informatics |
| 2017 – 2021 | Member, Curriculum Committee, Biomedical Informatics Training Program |
| 2023 | Member, Promotion Committee, Department of Biomedical Informatics |

**University and Medicine School Service:**

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| 2008 – present | Career Advisor, Medical Scientist Training Program of the University of Pittsburgh School of Medicine |
| 2008 – present | Career Advisor, Physician Scientist Training Program of the University of Pittsburgh School of Medicine |
| 2009 – present | Member, University of Pittsburgh Graduate Faculty, University of Pittsburgh |
| 2009 – present | Member, Graduate Training Program in Intelligent Systems, University of Pittsburgh School of Computing and Information |
| 2009 – present | Member, PhD in Clinical and Translational Science Program Committee, University of Pittsburgh School of Medicine (KL2 and TL1 programs) |
| 2015 – present | Mentor, Digestive Diseases Training Program, University of Pittsburgh School of Medicine (T32 program) |
| 2016 | Member, Data-X Committee for the School of Computing and Information, University of Pittsburgh |
| 2016 – 2017 | Member, Data Management Committee, University of Pittsburgh |
| 2016 – 2018 | Member, Tenured Faculty Promotions and Appointments (TFPA) Committee, University of Pittsburgh School of Medicine |
| 2017 – present | Member, Institute of Clinical Research Education (ICRE) Advisory Committee, University of Pittsburgh School of Medicine |
| 2018 | Member, Educational Resources Subcommittee for LCME re-accreditation, University of Pittsburgh School of Medicine |
| 2018 | Reviewer, Central Research Development Fund (CRDF) - Fiscal Year 2019, University of Pittsburgh |
| 2020 | Reviewer, Pitt Momentum Funds 2020, University of Pittsburgh |
| 2021 | Member, Pitt Clinical + Translational Resources (CTR) Program Task Force on Data Analytics and Translational/Clinical Database Infrastructure, University of Pittsburgh School of Medicine |
| 2022 | Reviewer, Bridging Connections in Addiction Research (BCAR), University of Pittsburgh |
| 2024 | Member, Dickson Prize Selection Committee, University of Pittsburgh School of Medicine |

**Diversity, Equity, and Inclusion Activities:**

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| 2011 – present | Participate in Computer Science, Biology, and Biomedical Informatics (CoSBBI) high school summer internship program that exposes trainees to biomedical informatics and data science research |
| 2020 – present | Develop and approve departmental Diversity, Equity, and Inclusion (DEI) plan for recruiting as a member of Strategic Planning Committee, Department of Biomedical Informatics |
| 2020 – present | Lead CTSI’s DEI initiatives for informatics as Director of the Informatics Core for CTSI |

**National Service:**

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| 2008, 2012 | Member, Workshop Committee, International Conference on Machine Learning (ICML) Workshop on Machine Learning for Health Care Applications |
| 2011 | Member, Workshop Committee, Artificial Intelligence in Medicine (AIME 2011) Workshop on Probabilistic Problem Solving in Biomedicine |
| 2011 | Member, Workshop Committee, International Conference on Machine Learning and Applications (ICMLA 2011) Workshop on Machine Learning in Medicine |
| 2011 | Member, Program Committee, AMIA Summit on Translational Bioinformatics |
| 2012 | Track Chair, Program Committee, AMIA Summit on Translational Bioinformatics |
| 2013 | Member, Program Committee, Twenty-Seventh AAAI Conference on Artificial Intelligence |
| 2013 – 2014 | Member, Workshop Committee, IEEE international conference on Bioinformatics and Biomedicine (BIBM) Workshop on Biomedical and Health Informatics (BHI) |
| 2014 | Member, Scientific Program Committee, AMIA Annual Symposium |
| 2014 – 2021 | Lead, Data Harmonization Work Group, CTSA’s Accrual to Clinical Trials (ACT) network |
| 2015 | Member, Program Committee, AMIA Summit on Translational Bioinformatics |
| 2015 – 2022 | Member, IT Roundtable Planning Committee, Clinical Research Forum, 2025 M Street NW, Suite 800 Washington DC 20036 |
| 2016 | Member, Program Committee, AMIA Summit on Translational Bioinformatics |
| 2016 – 2017 | Member, EHR Working Group, All of Us Research Program of the Precision Medicine Initiative (PMI) |
| 2016 – 2017 | Member, Data Privacy Working Group, All of Us Research Program of the Precision Medicine Initiative (PMI) |
| 2017 – present | Member, EHR Operations Group, All of Us Research Program of the Precision Medicine Initiative (PMI) |
| 2017 – 2018 | Member, Common Data Model Harmonization Committee, FDA's Center for Drug Evaluation and Research and IBM |
| 2019 – 2021 | Member, Systems Program Committee, IEEE International Conference on Healthcare Informatics (ICHI) |
| 2020 – present | Member, Phenotype & Data Acquisition and the Data Ingestion & Harmonization Workstreams, National COVID Cohort Collaborative (N3C) |
| 2020 – present | Member, American Medical Informatics Association (AMIA) Public Policy Committee, Bethesda, MD |
| 2020 – present | Member, Enterprise Data Warehouse for Research (EDW4R) Working Group, CTSA |
| 2021 – present | Co-lead, Neurology COVID-19 analytic group, Consortium for Clinical Characterization of COVID-19 by EHR (4CE) |
| 2022 – present | PD/PI, CTSA’s ENACT network |
| 2022 | Member, Scientific Program Committee, AMIA Informatics Summit |
| 2022 | Member, AMIA Artificial Intelligence Evaluation Showcase Scientific Program Committee |
| 2023 | Member, Scientific Program Committee, AMIA Informatics Summit |

**International Service:**

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| --- | --- |
| 2014 – 2015 | Member, External Advisory Board for the National Institute of Health Transformatics, Jawaharlal Institute of Medicine and Surgery Post-Graduate Medical Education and Research (JIPMER), Pondicherry, India |
| 2019 | Member, Program Committee, 2019 IEEE International Conference on Healthcare Informatics (ICHI 2019), Beijing, China |
| 2021 | Member, Systems Program Committee, 2021 IEEE International Conference on Healthcare Informatics (ICHI 2021), Victoria, Canada |

1. Received the Marco Ramoni Distinguished Paper Award for Translational Bioinformatics and selected as one of the best papers at the AMIA Summit on Translational Bioinformatics, 2011. [↑](#footnote-ref-1)
2. Received a Distinguished Paper Award for Translational Bioinformatics and selected as one of the best papers at the AMIA Summit on Translational Bioinformatics, 2012. [↑](#footnote-ref-2)
3. Received a Distinguished Paper Award at the AMIA Annual Symposium, 2005. [↑](#footnote-ref-3)
4. Awarded Third Place in the Student Paper Competition at the AMIA Annual Symposium, 2005. [↑](#footnote-ref-4)
5. Finalist for Best Paper Award at the AMIA Annual Symposium, 2007. [↑](#footnote-ref-5)
6. Received the Homer R. Warner Award at the AMIA Annual Symposium, 2012. [↑](#footnote-ref-6)
7. Received a Distinguished Paper Award for Translational Bioinformatics at the AMIA Summit on Translational Bioinformatics, 2013. [↑](#footnote-ref-7)
8. Received the Martin Epstein Award and First Place in the Student Paper Competition at the AMIA Annual Symposium, 2015. [↑](#footnote-ref-8)
9. Awarded First Place in the Student Paper Competition at the AMIA Joint Summits Clinical Research Informatics, 2017. [↑](#footnote-ref-9)
10. Awarded First Place in the Student Paper Competition at the AMIA Informatics Summit Clinical Research Informatics, 2018. [↑](#footnote-ref-10)
11. Outstanding Paper Award at the Science of Team Science (SciTS) Conference, 2018. [↑](#footnote-ref-11)
12. Finalist for the Distinguished Paper Award at the AMIA Annual Symposium, 2018. [↑](#footnote-ref-12)
13. Finalist for the Best Poster Award at the AMIA Annual Symposium, 2023. [↑](#footnote-ref-13)