AARTI SATHYANARAYANA | CV

ASSISTANT PROFESSOR
Bouvé College of Health Sciences & Khoury College of Computer Sciences
Northeastern University

PERSONAL WEBSITE
www.aartisathyanarayana.org

LAB WEBSITE
www.thesathlab.com

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aarti@northeastern.edu

EDUCATION

Ph.D. 2012-2017	Computer Science, University of Minnesota Advisors: Jaideep Srivastava, Vipin Kumar Thesis: Computational Sleep Science: A Machine Learning Approach
M.S. 2012-2015	Computer Science, University of Minnesota Advisor: Jaideep Srivastava Area: Data Mining and Machine Learning
B.S. 2006-2010	Mathematics, University of Minnesota Minor: Econometrics

ACADEMIC EXPERIENCE

2020-Present	Harvard T.H. Chan School of Public Health, Boston, MA Postdoctoral Research Fellow, Advisor: Jukka-Pekka Onnela Department of Biostatistics
2020-Present	Harvard Medical School: Massachussets General Hospital, Boston, MA Postdoctoral Research Fellow, Advisor: Michael Brandon Westover Clinical Data Animation Center
2018-2020	Harvard Medical School: Boston Children's Hospital, Boston, MA Postdoctoral Research Fellow, Advisor: Kenneth Mandl Computational Health Informatics Program
2016-2016	Qatar Computing Research Institute, Doha, Qatar Research Associate, Advisors: Jaideep Srivastava and Ahmed Elmagarmid Social Computing Group
2014-2014	Mayo Clinic, Rochester, MN Graduate Research Assistant, Advisor: Jyotishman Pathak Center for the Science of Health Discovery
2014-2015	Allina Health, Minneapolis, MN Graduate Research Assistant, Advisors: Prasanna Desikan and TC Tong Division of Applied Research
2012-2018	University of Minnesota, Minneapolis, MN Graduate Research Assistant, Advisor: Jaideep Srivastava Department of Computer Science

INDUSTRY EXPERIENCE

2017-2017	Apple Inc. Wireless Technologies Research & Development, Manager: Brent Ledvina
2015-2015	Apple Inc. Special Projects, Managers: Jerremy Holland & Meriko Borogove
2013-2013	Intel Corp. Thermal Power Validation, Manager: David Hayden
2012-2013	Cogcubed (Start-up) Research & Development, Manager: Kurt Roots
2010-2013	Mphasis Software Development , Manager: Joseph Miller

TEACHING EXPERIENCE

COURSEWORK

2015	Principles of Databases (CS 5707), University of Minnesota
2015	Introduction to Java Programming (CS 1103), University of Minnesota
2014	Principles of Databases (CS 5707), University of Minnesota
2013	Principles of Databases (CS 5707), University of Minnesota
2013	Introduction to C++ Programming (CS 1113), University of Minnesota

GRANTS

Completed 2020-2021	Americal Medical Informatics Association Women's Leadership Seed Grant
Completed 2018-2020	National Institute of Child Health and Human Development T32 Training Grant
Completed 2017-2018	University of Minnesota Doctoral Dissertation Fellowship
Completed 2016-2016	Qatar Foundation Research Fellowship

PATENTS

2020	Dynamic Activity Recommendation System (based on my dissertation work) U.S. Patent Application 16/556,647, filed March 5, 2020.
2020	Machine Learning Assisted Satellite Based Positioning (based on work with Apple) U.S. Patent Application 16/536,234, filed February 13, 2020.

HONOURS AND AWARDS

2021	Young Investigator Award *American Clinical Neurophysiology Society*
2019	Young Investigator Award *American Epilepsy Society*
2019	Women in AMIA Leadership Scholar *American Medical Informatics Association*
2018	National Honourable Mention *National Center for Women in Technology*
2017	Regional Collegiate Award *National Center for Women in Technology*
2017	Doctoral Dissertation Fellow *University of Minnesota*
2017	Big Data for Computational Medicine Fellow *National Institute of Health's Big Data to Knowledge Initiative*
2016	Grace Hopper Scholar *Qatar Computing Research Institute*
2015	International Leadership Changemaker *Institute of Electrical and Electronics Engineers - Women in Engineering*
2014	Graduate Research Cohort Award *Computing Research Association*
2012-2015	Grace Hopper Scholar *University of Minnesota*

SERVICE

University	Programming Committee, Harvard Biotechnology Club Founder, Computational Health Informatics Machine Learning Club Founder, Computational Health Informatics Postdoctoral Student Group
Community	National Center of Women in Technology, mentor and volunteer (2018-2020) Scientista, poster competition judge (2019) Aarohan NGO, teacher and volunteer (2012-2020)
Editorial	NPJ Digital Medicine Journal of Medical Informatics Research Journal of Healthcare Informatics Research Journal of Translational Engineering in Health and Medicine American Medical Informatics Association Frontiers in Artificial Intelligence, Big Data, Neuroinformatics
Professional Societies	Institute of Electrical and Electronics Engineers (IEEE) IEEE Women in Engineering IEEE Computer Society American Medical Informatics Association IEEE Signal Processing Society American Epilepsy Society American Clinical Neurophysiology Society

SELECTED INVITED TALKS

2021	Digital Phenotyping: Methodologies for Smartphones and Wearables *Harvard Health Data Science Symposium*
2021	Quantifying Environmental Exposures from Smartphone Data *Joint Statistical Meeting*
2021	Digital Phenotyping: Quantifying Human Health *Columbia University, Department of Biomedical Informatics Symposium*
2020	Digital Biomarkers of Physiological Data Streams *Massachusetts General Hospital, Clinical Data Animation Center* *Boston Children's Hospital, Computational Health Informatics Program* *Brigham Women's Hospital, Division of Sleep Medicine*
2019	A Digital Biomarker for Benign Childhood Epilepsy with Centrotemporal Spikes *American Clinical Neurophysiology Society's Annual Meeting*
2019	Measuring Drug Effects on Brain Dynamics *American Epilepsy Society's Annual Meeting*
2019	A Digital Biomarker for Benign Childhood Epilepsy with Centrotemporal Spikes *American Medical Informatics Association's Annual Symposium*
2019	Measuring Drug Effects on Brain Dynamics *Boston Children's Hospital, Grand Rounds for the Division of Neurology*
2018	The Future of Sleep Health: A Data-Driven Revolution in Sleep Science and Medicine *IEEE Engineering in Biology and Medicine*
2018	Experiences as a Women in Technology *National Center for Women in Technology Board of Directors*
2017	Computational Sleep Science *Massachusetts Institute of Technology, Computer Science & Artificial Intelligence Lab* *Massachusetts Institute of Technology - Lincoln Lab*
2017	The Science of Sweet Dreams *IEEE Computer Society Podcast*
2017	Computational Sleep Science *University of Minnesota Open House*
2016	Robust Automated Human Activity Recognition *IEEE Data Mining Human Activity Analysis Forum*
2015	A Framework for Predicting Rx Response *MinneWIC*
2014	Clinical Decision Making: Predicting Patient Response to Metformin *IEEE International Conference on Data Mining PhD Forum*
2014	Leveraging EHR Data Using Predictive Modeling *Computing Research Association Graduate Research Cohort*

PEER REVIEWED PUBLICATIONS

P12 Measuring Real-Time Medication Effects from Electroencephalography
Aarti Sathyanarayana, Rime El Atrache, Michele Jackson, Sarah Cantley, Latania Reece, Claire Ufongene, Tobias Loddenkemper, Kenneth Mandl, William Bosl.
Submitted

P11 Real-time Monitoring of the Brain's Propensity to Seize
Aarti Sathyanarayana, Rime El Atrache, Michele Jackson, Sarah Cantley, Latania Reece, Claire Ufongene, Tobias Loddenkemper, Kenneth Mandl, William Bosl.
Submitted

P10 Measuring the Effects of Sleep on Epileptogenicity with Multiscale Entropy
Aarti Sathyanarayana, Rime El Atrache, Michele Jackson, Kenneth Mandl, Tobias Loddenkemper, William Bosl.
Clinical Neurophysiology (2021)

P9 Nonlinear Analysis of Visually Normal EEGs to Differentiate Benign Childhood Epilepsy with Centrotemporal Spikes
Aarti Sathyanarayana, Rima El Atrache, Michele Jackson, Aliza Alter, Kenneth Mandl, Tobias Loddenkemper, William Bosl.
Scientific Reports (2020)

P8 A Digital Biomarker for Benign Childhood Epilepsy with Centrotemporal Spikes
Aarti Sathyanarayana, Rima El Atrache, Michele Jackson, Kenneth Mandl, Tobias Loddenkemper, William Bosl.
Journal of Clinical Neurophysiology (2019)

P7 Measuring Drug Effects on Brain Dynamics through Electroencephlography
Aarti Sathyanarayana, Rima El Atrache, Michele Jackson, Kenneth Mandl, Tobias Loddenkemper, William Bosl.
Proceedings of the American Epilepsy Society Annual Meeting (2019)

P6 Benchmark on a Large Cohort for Sleep-wake Classification with Machine Learning Techniques.
Palotti, Joao, Raghvendra Mall, Michael Aupetit, Michael Rueschman, Meghna Singh, **Aarti Sathyanarayana**, Shahrad Taheri, Luis Fernandez-Luque.
npj Digital Medicine (2019)

P5 The Science of Sweet Dreams: Wearable Devices and Sleep Medicine
Aarti Sathyanarayana, Luis Fernandez-Luque, Jaideep Srivastava
IEEE Computer Magazine (2017)

P4 Sleep Quality Prediction From Wearable Data Using Deep Learning
Aarti Sathyanarayana, Shafiq Joty, Luis Fernandez-Luque, Ferda Ofli, Jaideep Srivastava, Ahmed Elmagarmid, Teresa Arora, and Shahrad Taheri
JMIR mHealth and uHealth (2016)

PEER REVIEWED PUBLICATIONS (cont)

P3 Robust Automated Human Activity Recognition
Aarti Sathyanarayana, Luis Fernandez-Luque, Ferda Ofli, Jaideep Srivastava, Ahmed Elmagarmid, Teresa Arora, and Shahrad Taheri
Proceedings of the IEEE International Conference on Data Mining Workshops (2016)

P2 Clinical Decision Making: Predicting Patient Response to Prescription Medication
Aarti Sathyanarayana, Jyotishman Pathak, Rozalina McCoy, Santiago Romero-Brufau, Maryam Panaziahar, Jaideep Srivastava
Proceedings of the IEEE International Conference on Data Mining Workshops (2014)

P1 Online Healthcare Management
Prasanna Desikan, **Aarti Sathyanarayana,** Jaideep Srivastava
Encyclopedia of Social Network Analysis and Mining (2014)