Supreeth Prajwal Shashikumar

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Website: https://supreethprajwal.github.io/
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EXPERTISE

Predictive analytics in Healthcare
Applied Deep Learning
Google Cloud – ML Engine
Streaming analytics
Signal Processing
Multivariate time series

LANGUAGES

Python, MATLAB, C

TOOLS AND TECHNOLOGIES

Tensorflow, PyTorch, Hidden Markov Model Toolkit (HTK).

RELEVANT COURSES

Probabilistic Graphical Models, *Spring 2018*
Machine Learning for Trading, *Fall 2017*
Bayesian Statistics, *Spring 2017*
Deep Learning, *Spring 2016*
Statistical Machine Learning, *Fall 2015*

AWARDS

KDD 2018 student travel award
2017 Snorkel workshop travel award

SERVICE AND LEADERSHIP

Teaching Assistant, Deep Learning, *Emory University, Spring 2017*

Moderator, BMI Journal Club, *Dept. of Biomedical Informatics, Emory University*

Research Symposium Chairperson, *NITK*

Freshman Programming Tutor, *NITK*

HOBBIES

Travelling, Hiking

EDUCATION

Georgia Institute of Technology   Atlanta, GA
PhD, Electrical and Computer Engineering   2015 - Present

National Institute of Technology - Karnataka   Mangalore, India
Bachelor of Technology, Electronics & Communication Engg.   2011 - 2015

RESEARCH

Department of Biomedical Informatics, Emory University
Graduate Research Assistant | Jan 2016 - Present
Develop and deploy computational tools and machine learning algorithms for analysis of healthcare data. Application areas include prediction of Sepsis in the ICU, Arrhythmia detection using ambulatory and wearable technologies.
Advisors: Shamim Nemati, PhD and Gari Clifford, DPhil

Speech Technology Laboratory, Indian Institute of Technology - Guwahati
Undergraduate Research Assistant | July 2013 – Jan 2015
Worked on Speech recognition and Speech analysis. Developed algorithms for detection of vowel onset and vowel end points in speech.
Advisors: S. R. M. Prasanna, PhD

INDUSTRY

Microsoft Research Cambridge, UK
Research Intern | May 2018 – August 2018
Worked in the Healthcare AI team on developing interpretable models for predicting clinical outcomes of patients with Traumatic Brain Injury.

Qualcomm Incorporated, Bangalore, India
Engineering Intern | May 2014 – July 2014
Worked in the System Performance Team to review the thermal framework of Qualcomm's flagship Snap-dragon chipsets.

JOURNALS (PUBLISHED/ACCEPTED)

Erik P. Reinertsen, **Supreeth P. Shashikumar,** et al., "Multiscale Network Dynamics between Heart Rate and Locomotor Activity Are Altered in Schizophrenia", *Accepted for publication in Physiological Measurement*

Supreeth P. Shashikumar, Qiao Li, et al., "Multiscale Network Representation of Physiological Time Series for Early Prediction of Sepsis", *In Physiological Measurement, Nov 2017. (Chosen as Physiological Measurement Highlights of 2017)*

Supreeth P. Shashikumar, Matthew D. Stanley, et.al, "Early Sepsis Detection in Critical Care Patients using Multiscale Blood Pressure and Heart Rate Dynamics", *In Journal of Electrocardiology, 2017*

JOURNALS (SUBMITTED/IN PREPARATION)

Supreeth P. Shashikumar, Shamim Nemati, et al., "End-To-End Development and Deployment of a Recurrent Neural Survival Model for Early Prediction of Sepsis", *In preparation*

Supreeth P. Shashikumar, Cheng Zhang, et al., "Machine Learning for Time-Sensitive Outcome Prediction after Severe Traumatic Brain Injury", *In preparation*

Qiao Li, Qichen Li, **Supreeth P. Shashikumar**, et al., "Deep Learning in the Cross-Time-Frequency Domain for Sleep Staging from a Single Lead Electrocardiogram", *Submitted to Physiological Measurement*

CONFERENCES (PUBLISHED/ACCEPTED)

Supreeth P. Shashikumar, Amit J. Shah, et al., "Detection of Paroxysmal Atrial Fibrillation using Attention Based Bidirectional Recurrent Neural Networks", In *Proceedings of the 24th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining, 2018*

Vidyashankar B.L, **Supreeth P. Shashikumar**, et al., "DeepAISE on FHIR – An Interoperable Real-Time Predictive Analytic Platform for Early Prediction of Sepsis", *Accepted for presentation at the American Medical Informatics Association Symposium 2018 – FHIR Applications Showcase track*

Joel Henry, Dennis Lynch, Jeff Mals, **Supreeth P. Shashikumar,** et al., "A FHIR-Enabled streaming sepsis prediction system for ICUs", *In 40ᵗʰ International Conference of the IEEE Engineering in Medicine and Biology Society, 2018*

Supreeth P. Shashikumar, Amit J. Shah, et al., "A deep learning approach to monitoring and detecting atrial fibrillation using wearable technology", *In 2017 IEEE International Conference on Biomedical & Health Informatics*

Biswajit D. Sarma, **Supreeth P. Shashikumar,** et al., "Improved vowel onset and offset points detection using bessel features", *In 2014 International Conference on Signal Processing and Communications (SPCOM)*

CONFERENCES (SUBMITTED/IN-PREPARATION)

Russell Jeter, Li-Wei Lehman, **Supreeth P. Shashikumar**, et.al., "Simultaneous Learning of Reward and Reinforcement Learning Policy Using Counterfactual Reasoning and Bayesian Optimization", *Submitted to AAAI 2018*

PATENTS

Shamim Nemati, Gari D. Clifford, **Supreeth P. Shashikumar**, Andre Holder, "System for predicting or identifying patient deterioration or improvement", United States provisional patent application #62/534,322, filed July 19, 2017

Shamim Nemati, **Supreeth P. Shashikumar**, et al., "Method for detecting abnormal cardiac activity", United States provisional patent application #62/437,457, filed December 21, 2016