HARINI SURESH

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EDUCATION

Massachusetts Institute of Technology (MIT)
Bachelor of Science in Computer Science, 2016
Master of Engineering in Computer Science, 2017
PhD in Computer Science, current
GPA: 4.9/5.0

TEACHING

Intro to Deep Learning, Lead Organizer
introtodeeplearning.com | January 2017 | Cambridge, MA
Led an extensive introduction to the field of deep learning, covering applications to machine translation, image recognition, game playing, image generation and more. Included hands-on labs in TensorFlow and peer brainstorming sessions. 250+ students attended.

PAPERS

<u>Harini Suresh</u>, Nathan Hunt, Alistair Johnson, Leo Anthony Celi, Peter Szolovits, Marzyeh Ghassemi. Clinical Intervention Prediction and Understanding using Deep Networks. Proceedings of the 2nd *Machine Learning for Healthcare* Conference, 2017. JMLR W&C Track Volume 68.

EXPERIENCE

Data Scientist at Jawbone
Summer 2015 | San Francisco, CA
* Used data from Jawbone UP bands to build models of how long and short term user behavior affects heart rate
* Shipped personalized insights to users on automatic travel detection, workout and heart rate trends
* Insights received an App Content Score of double the current average within the first 48 hrs of release
* Published two visual data stories on Jawbone blog

Data Scientist at Zephyr Health
Summer 2014 | San Francisco, CA
* Using raw Medicare data, developed and shipped an application allowing pharmaceutical companies to compare prescriptions from specific disease areas, aggregate information about similar drugs & healthcare providers, and design an efficient go-to-market strategy
* Created several visualizations to analyze doctor referral patterns by specialty

RESEARCH

Data Driven Inference Group, MIT
Present | Cambridge, MA
Pursuing a PhD on interpretability and fairness in machine learning models applied to personalized medicine; using human-in-the-loop learning to quantify interpretability and transfer learning to mitigate issues with using biased data. Advised by John Guttag.

Clinical Decision Making Group, MIT
Summer 2016 - Summer 2017 | Cambridge, MA
Integrated multimodal clinical data and used deep learning models to improve the state-of-the-art for intervention prediction in intensive care units and provide interpretability for model decisions (presented at *Machine Learning for Healthcare*, 2017). Advised by Peter Szolovits.

Computational Biophysics Group, MIT
Fall 2015 - Summer 2016 | Cambridge, MA
Optimized prediction of mortality in intensive care units with new feature transformations for clinical data; implemented logistic regression models, regularization, and bootstrapping techniques. Advised by Collin Stultz.

COURSEWORK

Advanced Machine Learning	Advanced NLP
Biomedical Computing	Computer Vision
Probabilistic Systems Analysis	Advanced Algorithms
Artificial Intelligence	Software Construction
Computational Cognitive Science	

PROJECTS

Pre-trial Fairness *- challengethebias.github.io*
An analytical interface to understand the tradeoffs between different frameworks of fairness, with the goal of making fair, data-driven models easier to understand and adopt. Winner of the *Hacking Bias in ML* hackathon hosted by Microsoft New England.

Commonwealth Stats *- massnonprofitnet.herokuapp.com*
An application for non-profit organizations to access and analyze important demographic data from the US Census Bureau in an easy and visual way, for use in grants, reports, or research. Made for the Massachusetts Nonprofit Network.

DistDetect *- github.com/harinisuresh/yelp-district-clustering*
Leveraged LDA topic modeling, Gaussian Mixture Models, and KNN classification to detect and label cultural city districts, and give insight into optimal locations for new businesses; submitted to the Yelp Dataset Challenge.