Davina Zamanzadeh

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Education

University of California, Los Angeles
MSc (S21) | PhD (IP) - Computer Science Gpa: **4.0/4.0** Sept 2018 - Present

- Research in **eHealth and Machine Learning** with Drs. M. Sarrafzadeh & A. Bui.
- *Master's thesis*: autoencoders for imputation on large clinical datasets.
- *Relevant coursework:* ML, ML Theory, Probabilistic Graphical Models, Automated Reasoning, Probabilistic Programming and Relational Learning, Web Information Management, Natural Language Processing (NLP)

University of California, Santa Barbara
BSc - Computer Science Gpa: **3.93/4.0** Sept 2014 - June 2018

- **Ranked #1** in graduating class with Distinction in Major.
- *Relevant courses:* AI/ML, Networking, Security, Computer Vision, Distributed Systems

Research

eHealth Research Lab, UCLA Sept 2018 - Present

- CRRT: Developing a system to predict if a patient with late-stage kidney disease will benefit from a gentler form of dialysis; collaboration with UCLA Health and Cedars Sinai.
- CURE-CKD: Developing novel imputation techniques to assist with prediction tasks regarding patients with Chronic Kidney Disease (CKD); collaboration with UCLA Health CURE-CKD Team.
- Project REFOCUS: Constructing a racism-aware COVID-19 surveillance system to address health inequities; collaboration with UCLA School of Public Health and the CDC.
- Established a collaboration with Translational Genomics Group at Cedars Sinai to build a model to predict whether a Crohn's Disease patient will experience post-operative recurrence.

Programming Languages Lab, UCSB Jan 2017 - June 2018

- Investigated effective comparison metrics for test sets/fuzzers under Dr. Ben Hardekopf.

Work Experience

Data Science Intern at **Microsoft**, *Remote* June 2021 - Sept 2021

Best In-House Image DNN: Developed a semi-novel knowledge distillation technique for deep neural networks (DNN) in a multi-teacher setting to produce universal image embeddings that will generalize well across tasks and boost performance beyond the teachers.

- Researched and implemented methods to save memory and speed up training, allowing us to increase the batch-size from 2 to 64 for 2 teachers resulting in roughly a 3x speedup.
- Wrote end-to-end executable code that unifies the data preprocessing and model loading pipeline across various tasks such that it can be easily extended to different datasets/teachers.

Technologies: python, tensorflow, keras

Machine Learning Intern at **Pinterest Labs**, *Remote* June 2020 - Sept 2020

Query Recommendations: Built a gradient boosted decision tree to improve query recommendations to improve user engagement and experience.

• 156k increase in daily searches (3.09%), and sustained lift in product usage past week 1 of the experiment. Ran A/B testing experiments to measure product impact.
• Worked on the end-to-end machine learning pipeline (collect training data, assign labels, create features, train, evaluate, and deploy), and built workflow for hyperparameter tuning.
Technologies: python, java, scala, hadoop, SQL

Recent Publications

1. R. Schouten, **D. Zamanzadeh**, P. Singh, *pyampute: a Python library for data amputation*, 21st Python in Science Conference, 2022
2. M. Wong, M. Wells, **D. Zamanzadeh**, S. Akre, J. Pevnick, A. Bui, K. Gregory, *Applying automated machine learning to predict mode of delivery using ongoing intrapartum data in laboring patients*, American Journal of Perinatology, 2022
3. **D. Zamanzadeh**, P. Petousis, T. Davis, S. Nicholas, K. Norris, K. Tuttle on behalf of the CURE-CKD Study team, A. Bui, M. Sarrafzadeh. *Autopopulus: A Novel Framework for Autoencoder Imputation on Large Clinical Datasets*. IEEE Engineering in Medicine and Biology Conference (EMBC) 2021.
4. S. Fazeli, **D. Zamanzadeh**, A. Ovalle, T. Nguyen, G. Gee, M. Sarrafzadeh. *COVID-19 and Big Data: Multi-faceted Analysis for Spatio-temporal Understanding of the Pandemic with Social Media Conversations*. arXiv preprint arXiv:2104.10807 2021.
5. M. Gavrilov, K. Dewey, A. Groce, **D. Zamanzadeh**, B. Hardekopf. *A Practical, Principled Measure of Fuzzer Appeal: A Preliminary Study*. IEEE International Conference on Software Quality, Reliability, and Security (QRS) 2020.

Activities and Awards

July 2022 - Present	**Scientific Python Community Manager**: Help moderate the community's Discord and Discuss forum.
Fall 2021 - Present	**NIH KUH-ART TL1 Training Grant**: Awarded fellowship to conduct research in the areas relevant to benign nephrology, urology and hematology
2020 - Present	**Podcast Treasurer and Content Advisor**: Managing funds for the podcast For Your Informatics, also occasoinally writing and narrating episodes.
Fall 2018 - Spring 2020	**NIH T32 Training Grant**: Awarded fellowship to pursue informatics towards improving health outcomes on clinical data.
Summer 2017	**KPCB Fellow and Decision Committee:** Selected to participate in networking events with technical leaders in Silicon Valley. Served on the Decision Committee for potential 2018 Fellows.
Spring 2016 - Spring 2018	**Phi Sigma Rho Chapter Founder/Director of Design:** Established the UCSB chapter of Phi Sigma Rho, a national sorority for women in STEM, as part of the founding class. In charge of designs, and involved in planning events, writing bylaws, recruiting, and mentorship.