

Kameron Shahabi
University of Southern California
Los Angeles, CA, 90007

kyshahab@usc.edu
kyshahab.github.io
949-573-6473

EDUCATION

University of Southern California

M.S. in Computer Science - Progressive Degree Program
B.S. in Computer Science - Summa Cum Laude

Expected May 2024/May 2023

GPA: 3.85
GPA: 3.91

EXPERIENCE

USC Computer Science Theory Group

Research Assistant

August 2022 - Present

Los Angeles, CA

- Theoretical machine learning research with Professor Vatsal Sharan
- Exploring connections between subpopulation robustness and multicalibration
- Analyzing implicit biases of stable learning algorithms
- Designed and evaluated algorithm for improving OOD-generalization, subgroup robustness, and fairness without access to group labels

Signal Foundation

Research Intern

May 2023 - September 2023

Remote

- Cryptography research for private messaging application with principal researcher Rolfe Schmidt
- Performed cost analysis of scaling contact discovery to use private information retrieval (PIR) over hardware enclaves
- Implemented state-of-the-art PIR system in C++ and Golang and conducted experiments on real-world data

Tesla, Inc.

Sensor Fusion and Tracking Intern

May 2022 - August 2022

Palo Alto, CA

- Raw sensor data analysis for autopilot pipeline
- Implemented Python reverse-geocoder using OpenStreetMap and PostGIS to detect sensor blocking objects based on car GPS data
- Planned and executed a long-term PostgreSQL database for sensor data on AWS cloud, with Python API and Grafana dashboard interfaces

USC Michelson Center Convergent Science Institute in Cancer

Research Assistant

July 2021 - May 2022

Los Angeles, CA

- Quantitative biology research with Dr. Peter Kuhn and Dr. Jeremy Mason
- Aggregated and assessed physical activity data from over 60 patients in clinical trials to help physicians predict whether those patients will experience unplanned healthcare encounters
- Used feature selection to identify important attributes for this classification

USC Information Laboratory

Research Assistant

July 2020 - March 2021

Los Angeles, CA

- Spatiotemporal research with Professor Cyrus Shahabi
- Built a co-location-based disease spread simulator using real world mobility data
- Predicted risk of COVID-19 infection at specific locations with 50% improvement in accuracy over existing methods

PUBLICATIONS

Mitigating Simplicity Bias in Deep Learning for Improved OOD Generalization and Robustness

Bhavya Vasudeva, [Kameron Shahabi](#), Vatsal Sharan

ICML Workshop on Spurious Correlations, Invariance, and Stability 2023

Under Review at International Conference on Learning Representations 2024

Towards Accurate Spatiotemporal COVID-19 Risk Scores Using High Resolution Real-World Mobility Data

Sirisha Rambhatla, Sepanta Zeighami, [Kameron Shahabi](#), Cyrus Shahabi, Yan Liu

ACM Transactions on Spatial Algorithms and Systems 2022

TECHNICAL REPORTS

Estimated Cost of Scaling Contact Discovery using Private Set Intersection

[Kameron Shahabi](#), Rolfe Schmidt

Whitepaper with Signal Foundation, 2023

RELEVANT COURSEWORK

Graduate Convex and Combinatorial Optimization, Machine Learning, Advanced Analysis of Algorithms, Theory of Machine Learning

Undergraduate Algorithms, Artificial Intelligence, Cryptography, Discrete Mathematics, Operating Systems, Computer Graphics, Linear Algebra, Probability Theory

TECHNICAL SKILLS

Machine Learning PyTorch, Tensorflow, Keras, Matplotlib, Sklearn, Pandas

Programming Python, Java, C++, Golang, JavaScript

Software Git, Linux, PostgreSQL, MongoDB, Node.JS, React

TEACHING

Course Producer Introduction to Algorithms and the Theory of Computing *Fall 2021, Spring 2022*

AWARDS

USC Provost Research Fellowship Academic Research Support *Fall 2021, Spring 2022*

USC Viterbi Dean's List Engineering Honors *8/8 Semesters*