

Rachel Longjohn

University of CA, Irvine
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Education

University of California, Irvine

Sep 2019 – Present

Expected 2024

Ph.D. Statistics, Donald Bren School of Information and Computer Sciences
Advisor: Dr. Padhraic Smyth (joint faculty in Statistics and Computer Science)

M.S. Statistics, Donald Bren School of Information and Computer Sciences

Jun 2021

Honors: Robert Newcomb Graduate Award in Statistics Honorable Mention

University of Southern California

Aug 2015 - May 2019

B.S. Applied and Computational Mathematics, Dornsife College

Minor in Applied Analytics, Viterbi School of Engineering

Specialization in Computer Programming, Viterbi School of Engineering

Honors: Summa Cum Laude, Phi Beta Kappa, Alpha Lambda Delta

Research

NIST Center for Statistics and Applications in Forensic Evidence (CSAFE)

Aug 2020 – Present

- Grad. student researcher on the Digital Evidence team in the CSAFE consortium.
- Developing statistical methodologies for supporting digital forensics in the analysis of user-generated activity data, such as app usage or web browsing activity.
- Investigating probabilistic models that address identity-related forensics questions, such as whether two sets of geolocation events were generated by the same individual or two different individuals.

UCI COVID Awareness and Mobility Groups

Jun 2020 – Present

- Grad. student researcher on project to build and maintain *COVID-19 Trends by UCI Statistics*, a dashboard for reporting and visualizing trends of hospitalizations, ICU patients, and deaths due to COVID-19 in California.
- Investigating the potential of cellphone mobility data to improve predictive models for the spread of COVID-19 in Orange County, CA.

UCI Machine Learning Repository

Jan 2020 – Present

- Grad. student researcher on project to upgrade the UCI Machine Learning Repository, a highly cited reference in computer science. Led by PIs: Sameer Singh, Padhraic Smyth, and Phillip Papadopoulos.
- Prototyping the design for the new dataset donation process with an emphasis on reproducibility.
- Conducting a survey and review of current and historical practices in data sharing repositories and their role in reproducible research in statistics and machine learning.

Work Experience

Data Science Intern

May 2018 – Aug 2019

Obsidian Security, Newport Beach, CA

- Constructed generalizable data representations used for modeling cybersecurity insights into enterprises' cloud environments.
- Conducted data analyses and compiled research on large datasets using PySpark in DataBricks.

- Created a hypothesis testing suite using the Python package Hypothesis that dealt with data from over 10 APIs including those from Box, Dropbox, GSuite, AWS, Office 365, Slack, and Salesforce.

Editor-in-Chief, Viterbi Conversations in Ethics

Jan 2018 – May 2019

USC Viterbi School of Engineering, Los Angeles, CA

- *Editor-in-Chief*: May 2018 – May 2019, *Editor*: Jan 2018 – May 2018.
- Developed the Viterbi School of Engineering's ethics magazine and website, *Viterbi Conversations in Ethics*, which publishes students' paper submissions on relevant ethics topics in science.
- Led a five-editor team through the selection/editing process for a pool of >150 submitted papers.
- Collaborated with website designer and faculty supervisor to publish website in Jan 2019.

Student Affairs Liaison, Department of Computer Science

Dec 2017 – May 2019

USC Viterbi School of Engineering, Los Angeles, CA

- Served as student representative for the Department of Computer Science to outside faculty and visiting professionals.
- Assisted computer science faculty with holding department events.

Teaching Experience

Teaching Assistant, Statistics Department

Sep 2019 – Dec 2019

UCI School of Information and Computer Science

- Assisted Professor Dave Armstrong with his Basic Statistics course covering basic inferential statistics, including confidence intervals and hypothesis testing on means and proportions, t-distribution, Chi Square distribution, and basic regression concepts.
- Led two weekly discussions of 50 students, wrote homework and exams, and held six office hrs/wk.

Teaching Assistant, Information Technology Program

Aug 2018 – May 2019

USC Viterbi School of Engineering

- Assisted Prfs. Nitin Kalé and Timothy Li with the course Technologies and Practices for Analytics.
- Helped students work through exercises analyzing real-world data using SAP.

Skills

Programming Languages: Python, R, MatLab, C++

Software: Numpy, Scipy, Pandas, R Tidyverse, Stan, JAGS

Databases: SQL, PostGreSQL, MySQL