

Samantha Robertson

Ph.D. Student - Electrical Engineering and Computer Science - University of California, Berkeley

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Education

Ph.D. Electrical Engineering and Computer Science

University of California, Berkeley

August 2019 – Present

Berkeley, USA

- Advisors: Dr. Niloufar Salehi and Dr. Moritz Hardt

B.S. Mathematical and Computational Science

Stanford University

September 2015 – June 2019

Stanford, USA

- Degree awarded with Distinction (top 15%)

Research

Graduate Student Researcher @ TO3 Group

Advised by Dr. Niloufar Salehi

2020 – Present

U.C. Berkeley

Applying mixed method approaches to understand how families engage with student assignment algorithms for enrolling in public schools, and how users calibrate trust in machine translation systems.

Stanford Brain Interfacing Lab

Advised by Dr. Paul Nuyujukian

2017–2019

Stanford University

Developed real time visualization capabilities in C and Python to specialize a custom real-time open source software for systems neuroscience research. Implemented a Kalman filter neural decoder and ran a trial with seven human participants to validate the system.

Stanford Computational Policy Lab

Advised by Dr. Sharad Goel

Fall 2018

Stanford University

Analyzed nationwide police traffic stop data for racial bias using raw data visualization and the veil of darkness test proposed by Grogger and Ridgeway in 2006. Assessed the strengths and limitations of the test.

Stanford Cardiovascular Biomechanics Computation Lab

Advised by Dr. Alison Marsden

Summer 2018

Stanford University

Designed and implemented a graphical user interface in C++ with Qt for lumped parameter cardiovascular modeling in the open source cardiovascular modeling software SimVascular.

Areas of Interest

- Human-Centered AI/ML
- Data Ethics

Honors and Awards

Honorable Mention, NSF Graduate Research Fellowship Program 2020

U.C. Berkeley EECS Excellence Award 2019

Elected to Phi Beta Kappa 2019

J.E. Wallace Sterling Award for Scholastic Achievement 2019

Awarded to 25 graduating students in the Stanford School of Humanities and Sciences.

Skills

Languages Proficient: R, Python, SQL, C, C++; Familiar: HTML/CSS, Java, Javascript

Tools Git, Unix, Tidyverse, Jupyter, PyTorch, SciKit-Learn, Qt

Qualitative Methods Interviewing, Qualitative Content Analysis

Teaching Assistant

AI for Medicine and Health Policy

Instructor: Dr. Ziad Obermeyer

Fall 2020

U.C. Berkeley

Data Challenge Lab

Instructor: Dr. Bill Behrman

Spring 2019

Stanford University

Publications

Samantha Robertson, Tonya Nguyen, and Niloufar Salehi. *Modeling Assumptions Clash with the Real World: Transparency, Equity, and Community Challenges for Student Assignment Algorithms* (Forthcoming 2021).

CHI '21: Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems

Pavan Mehrotra, Sabar Dasgupta, **Samantha Robertson**, and Paul Nuyujukian. *An open-source realtime computational platform (short WIP paper)*. 2018.

Proceedings of the 19th ACM SIGPLAN/SIGBED International Conference on Languages, Compilers, and Tools for Embedded Systems (LCTES '18).

Non-Archival Publications (Lightly Peer Reviewed)

Samantha Robertson, Wesley Hanwen Deng, Timnit Gebru, Margaret Mitchell, Daniel J. Liebling, Michal Lahav, Katherine Heller, Mark Díaz, Samy Bengio, and Niloufar Salehi. *Three Directions for the Design of Human-Centered Machine Translation*. 2021.

HCI+NLP Workshop at EACL '21

🏆 **Samantha Robertson**, Tonya Nguyen, and Niloufar Salehi. *Modeling Assumptions Clash with the Real World: Configuring Student Assignment Algorithms to Serve Community Needs*. 2020.

4th Workshop on Mechanism Design 4 Social Good (MD4SG '20)

- Best "New Horizons" Paper
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Samantha Robertson, Niloufar Salehi. *What If I Don't Like Any of the Choices? The Limits of Preference Elicitation for Participatory Algorithm Design*. 2020.

Workshop on Participatory Approaches to Machine Learning at ICML '20

Presentations and Invited Talks

Configuring Student Assignment Algorithms to Meet Community Needs

- University of San Francisco Center for Applied Data Ethics 2021 Speaker Series
 - 4th Workshop on Mechanism Design for Social Good (MD4SG), 2020
 - Workshop on Participatory Approaches to Machine Learning at ICML, 2020
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Human-Centered Machine Translation

- HCI + NLP Workshop at EACL, 2021
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A Graphical User Interface for Lumped Parameter Cardiovascular Modeling in SimVascular

- Stanford Bioengineering REU, 2018
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LiCoRICE: A Open-source Realtime Computational Platform for Systems Neuroscience

- Stanford Neurosciences Institute Symposium, 2018
- Stanford Bioengineering REU, 2017
- Stanford Bio-X Symposium, 2017