

Sebastian F. Ruf

Postdoctoral Researcher - Department of Psychology and Electrical and Computer Engineering
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Summary

Postdoctoral Researcher with strong technical, communication, and project management skills seeking positions using data science and machine learning tools to drive positive change. I'm interested in working on communicative, cross functional teams to tackle important data problems. My time spent in various disciplines and as an improviser means that I'm able to quickly get to the core of a problem, generate creative solutions, and implement them.

Work Experience

Postdoctoral Researcher (Data Scientist)

Northeastern University

August 2018-Present

Boston, MA

- Analyzed clinical data (resting state fMRI) with data science and machine learning tools to understand the brain
- Problems include classification of post traumatic epilepsy and predicting change in depression. Used network science and time series tools for feature selection. Developed and implemented new methods when needed, primarily in MATLAB with some Python
- Currently working towards 4 papers, including a two-part paper drawing together dynamical systems and psychology that is 7 years in the making

Education

PhD in Electrical and Computer Engineering

Georgia Institute of Technology

August 2013-May 2018

Atlanta, GA

- Used tools from the analysis and control of linear and nonlinear dynamical systems to study behavior over social networks; including "viral" product spread (link), network control (link), and sustainability (link)
- Projects included both applied mathematics (proving theorems) and extensive simulations
- Collaborated with researchers from UIUC (product spread) and Pakistan (sustainability) leading to 7 papers

Masters of Science, Mechanical Engineering

University of California, Berkeley

August 2011-May 2012

Berkeley, CA

- Course-work masters focused on control theory and management

Bachelors of Science, Mechanical Engineering

University of California, Berkeley

August 2007-May 2011

Berkeley, CA

- Honors: Tau Beta Pi (Engineering Honor Society), Pi Tau Sigma (ME Honor Society)

Skills

Linear Algebra and Optimization, Machine Learning, Network Science, Interdisciplinary Communication, Teaching, Storytelling, Creative Problem Solving

Programming

Python (scikit-learn, statsmodel, pandas), SQL (MySQL), git, MATLAB, Unix Command Line

Teaching and Leadership Experience

Co-founder/President/Treasurer

ECE Graduate Student Society

2014 - 2016

Georgia Institute of Technology

- Built the group from the ground up, including developing the initial purpose and leadership framework

Instructor and Performer

Various Improvisational Theater Companies

2013-Present

Atlanta GA, Saudi Arabia, Boston MA

- Co-developed and co-taught the Atlanta Improv Dojo, which focuses on bringing mindfulness into improvisation
- Developed a solo improv show, which runs up to 40 minutes

President

Tau Beta Pi, Engineering Honor Society

12/2010-05/2011

U.C. Berkeley

- Managed the efforts of ~ 40 officers, providing guidance for the 60 events in the semester