



Rebecca Clarkson

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San Francisco, CA

rebeccaclarkson.com

 RebeccaClarkson

 rebecca-clarkson-phd

SKILLS

Languages Python, Matlab, SQL, Igor Pro

Tools Pandas, NumPy, SciPy, Matplotlib, scikit-learn, PostgreSQL, SQLAlchemy, Docker, bash/vim

EXPERIENCE

Insight Health Data Science

2018

Health Data Science Fellow

San Francisco, CA

- Consulted with Bay Area wearables startup, identifying possible strategies to improve product accuracy, documenting workflow and findings at rebeccaclarkson.com/blog/artform
- Employed PostgreSQL and SQLAlchemy to analyze clinical information from MIMIC-III database (>40k patients)
- Matched >6k arterial pulse waveform recordings to specific admissions in MIMIC-III, providing company with detailed patient demographics for further analysis
- Extracted 14 clinically relevant features from arterial waveform data using Python (SciPy, NumPy, Pandas)
- Achieved 70% precision and recall with random forest classification predicting age group based on arterial waveform, using downsampling to create a balanced dataset

University of California, San Francisco

2011-2017

Graduate Student, Neuroscience Department

San Francisco, CA

- Achieved > 80% precision using linear discriminant analysis to classify neuronal subtypes based on electrophysiological features, resulting in first author publication (Clarkson et al., 2017, *J Neurosci*)
- Built an automated pipeline integrating Matlab and Igor Pro for real-time neuronal classification (implemented lab-wide)
- Developed a Python package for analysis of neuronal recordings (github.com/RebeccaClarkson/NeuroSpyke)
- Integrated electrophysiological and imaging data from heterogeneous data sources, automating the experimental process to increase efficiency by >200%
- Performed simultaneous electrophysiological recordings and calcium imaging using two-photon microscopy to achieve novel insights into subcellular neuronal processes

National Institute of Health and Medical Research (INSERM)

2009

Research Intern

Paris, France

- Demonstrated seizure-like activity in mouse organotypic hippocampal slice cultures through dual-electrode recordings, providing a model system for future investigation

Netherlands Institute for Neuroscience

2009

Research Intern

Amsterdam, Netherlands

- Acquired and analyzed data on dendritic calcium dynamics and structural plasticity with fluorescent confocal microscopy to determine role of nutrient levels on hippocampal cell structure and function

EDUCATION

Ph.D. in Neuroscience, University of California, San Francisco

2017

Awarded National Science Foundation (NSF) Graduate Research Fellowship

San Francisco, CA

B.S. in Neuroscience, Brown University

2010

Magna cum laude, Elected to Sigma Xi, the Scientific Research Society

Providence, RI