

Scott Cole

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 [srcole](https://github.com/srcole)

<https://srcole.github.io>

Skills

- Python (pandas, sklearn, seaborn, numpy, scipy, matplotlib), MATLAB, Tableau ¹
- Statistics, signal processing, machine learning, data processing
- Technical writing and presentations
- Teaching - mathematics tutor, graduate teaching assistant, and guest lectures (e.g. clustering, GLMs, signal processing)

Work experience

Data science intern - Crime Lab New York

Sep-Dec 2017

- I built a wide variety of machine learning models to predict future police misconduct from officer activity for use in an Early Intervention System (EIS). I designed the workflow to allow models to be highly customizable, and for easy comparison of potential algorithms and baselines by assessing accuracy and utility. Work also included descriptive statistics.

Education

Ph.D. Candidate in Neuroscience, computational focus
University of California, San Diego

GPA: 3.9

2014 - Present
La Jolla, CA

B.S. in Bioengineering, signal processing focus, math minor
Clemson University

GPA: 4.0

2010 - 2014
Clemson, SC

Graduate research

- Developed a novel time series analysis to extract information about brain activity
- Applied statistical analysis to assess changes in brain activity caused by treatment for Parkinson's disease
- Developed a workflow to transform neural signals into tables of features for efficient statistical analysis
- Presented at Society for Neuroscience meetings (2015, 2016) and the Hebrew University of Jerusalem (2017)
- Published research in Journal of Neuroscience and Trends in Cognitive Sciences ²
- Mentored 3 PhD rotation students (3 months each) and 2 undergraduate researchers (5+ months)
 - Taught signal processing, python, coding practices, and neuroscience

Code sharing

- Initiated the creation of a code base for collaboration between lab members and open sharing with the community ³
- Developed and released a python package to compute coupling between brain rhythms
- Released the code (and data) to replicate the analysis and figures in my publication on Parkinson's disease
- Wrote a tutorial for supercomputing with python, and presented to the Open Science Grid

Personal data science projects

Burritos: Developed a system to systematically judge burritos across San Diego. Recruited 62 reviewers to rate 320 burritos at 75 taco shops. Characterized and analyzed patterns in data. Work was presented at Ignite San Diego and covered by the San Diego Union-Tribune, Canadian Broadcasting Corporation, and Partially Derivative podcast.

Currency exchange: Scraped historical data, engineered features, implemented machine learning algorithms to predict the Euro-Dollar exchange rate, evaluated efficacy of trading strategies, and met with traders at FXCM.

Neuroscience poster popularity: Designed an efficient data collection system for evaluating the popularity of posters at the Society for Neuroscience 2016 conference. Identified variance in popularity explained by geography and subfield.

Awards

Frontiers of Innovation Scholars Program - University of California, San Diego	2017
National Science Foundation Graduate Research Fellowship	2014-2017
Poly-Med Outstanding Senior Award - Clemson University Bioengineering Department	2014
Barry M. Goldwater Scholarship	2013
1 st Place Undergraduate Oral Presentation - Society for Biomaterials Symposium, Clemson University	2012

¹<https://public.tableau.com/profile/scott.cole#/> ²<https://scholar.google.com/citations?user=fZe7tcwAAAAJ&hl=en> ³<https://github.com/voytekresearch/neurodsp>