

## Abbie M. Popa, Ph.D.

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**EDUCATION**      **Ph.D. University of California at Davis** (September 2012 - June 2018)  
Dissertation: Behavior and EEG Testing of Adolescent Anxiety  
Data Science Initiative Affiliation  
**Honors Sc.B.**, Brown University (September 2006-December 2010)  
Major: Cognitive Neuroscience

**TECHNICAL SKILLS**      Software including: Python, R, Matlab, Jupyter, git, SQL, SPSS, DataGraph, L<sup>A</sup>T<sub>E</sub>X  
Packages including: sklearn, pandas, numpy, scipy, matplotlib, TensorFlow, keras, ggplot, nlme

**TECHNICAL EXPERIENCE**      **UC Davis MIND Institute** Sacramento, CA  
*PhD Researcher* September 2012 - June 2018

- Developed six child-friendly computerized behavior tests (disguised as games)
- Used k-means clustering to classify children as "copers" or "strugglers" based on behavioral, eye-tracking, and self-report measures
- Used ICA to isolate brain activity from noise in EEG data
- Used mixed effects linear modeling to classify participants behavior over time
- Used linear regression to correlate trajectories of brain development and children's outcomes in a large (approximately 500 GB) MRI dataset
- Programmed data analyses and visual stimuli using R, Python, and Matlab
- Trained and mentored 6 junior research assistants and 7 volunteer interns
- Resulted in one submitted manuscript, three in-progress manuscripts, 5 international conference oral presentations (4 first author) and 13 international conference poster presentations (5 first author)
- Received three travel awards in recognition of my work

**Davis Incubator Group** Student organized group at UC Davis  
*President* September 2016 - present  
*Member* January - August 2016

- Completed online coursework in python, SQL, and machine learning
- Completed two collaborative Kaggle image classification challenges using skimage, TensorFlow, tflearn, keras, OpenCV and PIL on an AWS machine to efficiently localize and classify images through convolutional neural networks for datasets up to 100 GB.
- Completed a collaborative Driven Data competition using Pandas and sklearn to finish in the top 10% of competitors
- Developed individual projects using tools including sklearn in Python, and nnet in R
- Organized and scheduled meetings for a group of 6-8 data scientists to practiced coding, machine learning, and share data science skills

**UC Davis Data Science Initiative** Davis, CA  
*Affiliate* April 2016 - present

- Contributed to a collaborative reading group on *Think Python* where we read and discussed the chapters and implemented the exercises as well as elaborated on best practices
- Implementing *An Introduction to Statistical Learning* collaboratively using Python and packages including statsmodels, scipy, numpy, pandas, sklearn, matplotlib, and seaborn
- Consulted with members of the UC Davis community on data science problems from twitter scraping to genomics as part of team un-seminars

## TEACHING EXPERIENCE

### Software Carpentry

*Certified Instructor for bash, git, R, and Python*

May 2018 - Present

- Trained and certified in core pedagogical concepts and evidence based teaching practices
- Certified to teach bash, git, R, and python to scientists at workshops

### Neurobiology

Dr. Lee M. Miller UC Davis Department of Neurobiology, Physiology, and Behavior, Davis CA

*Teaching Assistant*

April 2015-June 2015

- Planned nine weeks of discussion sections with two co-TAs. Prepared material for an hour of homework review, practice problems, and discussion of lecture material and readings.
- Independently led 3 one hour discussion sections for a total of 75 students each week.
- Graded two short answer midterms and one short answer final exam for 200 students

## LEADERSHIP EXPERIENCE

### Neuroscience Initiative to Enhance Diversity

Davis, CA

*Student Organizer*

Event held April 2016

- Organized event that recruits 25 undergraduates from historically black and Hispanic serving colleges to increase representation in PhD programs
- Coordinated 10 workshops led by faculty and students
- Led a student data blitz and student panel on preparing your best application
- Conducted mock interviews with the students

### Explorations, UC Davis Undergraduate Research Journal

Davis, CA

*Editor*

February 2015 - August 2015

*Managing Editor, Physical and Life Sciences*

September 2015 - June 2017

- Found appropriate faculty reviewers for student submitted publications
- Communicated faculty reviewer comments to student authors
- Assessed the reviewed and edited papers for acceptance in a yearly UC Davis publication
- Copy-edited and formatted student articles for publication

## COMMUNITY SERVICE

### Intertational Rescue Committee

Sacramento, CA

*Refugee Empowerment Volunteer*

January 2017 - October 2017

- Assisted recent refugees to the United States in preparing resumes and job applications
- Helped organize the first cohort of Women's Empowerment Programming, including survey design, focus group summary, and working with the women in the program
- Organized paperwork including financial forms to ensure compliance

### Women in Science and Engineering

Davis, CA

*Mentor, Workshop Organizer, and Presenter*

September 2015 - June 2017

- Mentored an undergraduate woman interested in pursuing an engineering graduate degree
- Designed, organized, and presented a workshop on how to apply to graduate school to 20 undergraduate women

### The Graduate Academic Achievement and Advocacy Program

Davis, CA

*Graduate Student Volunteer and Mentor*

September 2013 - June 2015

- Advised and assisted students from underrepresented minorities on topics including graduate school applications and science writing
- Planned and ran workshops for students from underrepresented minorities on topics including graduate school applications, research assistantships, and gap years
- Mentored a student