

## Abbie M. Popa, Ph.D.

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EDUCATION	<b>Ph.D.</b> , University of California at Davis	(September 2012 - June 2018)
	Major: Cognitive Neuroscience	Data Science Initiative Affiliation
	Dissertation: Behavior and EEG Testing of Teen Anxiety	
	<b>Honors Sc.B.</b> , Brown University	(September 2006-December 2010)
	Major: Cognitive Neuroscience	
TECHNICAL EXPERIENCE	<b>App Annie</b>	San Francisco, CA
	<i>Senior Data Scientist</i>	August 2019 - Present
	<ul style="list-style-type: none"><li>• Building machine learning models to help businesses navigate the mobile app marketplace</li><li>• Modeling likely causes of interesting events to surface insights to our customers in the Data Stories product</li><li>• Increased the accuracy of our core model in predicting extremely well-performing apps, resulting in a significant decrease in customer support tickets</li><li>• Leading adoption of best practices including version control, continuous integration, and code review among the data science team</li></ul>	
	<b>Cogitativo</b> (Healthcare Consulting Start-Up)	Berkeley, CA
	<i>Data Science Intern</i>	April 2019 - June 2019
	<ul style="list-style-type: none"><li>• Identified instances of non-recommended healthcare procedures from millions of records stored in AWS Redshift</li><li>• Developed tables of metrics to summarize new payment integrity findings for our clients</li><li>• Built a Tableau dashboard to visualize anomalous behavior of home healthcare providers</li></ul>	
	<b>The Data Institute at the University of San Francisco</b>	San Francisco, CA
	<i>Data Science Postdoctoral Fellow</i>	August 2018 - July 2019
	<ul style="list-style-type: none"><li>• Using self-supervised learning to generate feature embeddings that describe nodes in brain networks from patients with schizophrenia and healthy controls</li><li>• Contributing to development of a web-based app for mass processing of EEG files in the cloud</li><li>• Classifying nonlinear features in EEG from infants who were born preterm using machine learning techniques including random forests and support vector machines</li><li>• Consulting on collaborations with 4 private sector companies</li><li>• Contributed to a collaborative reading and practice group on Reinforcement Learning</li><li>• Instructed and developed an Introduction to Data Science class for 40 undergraduates</li></ul>	
	<b>UC Davis MIND Institute</b>	Sacramento, CA
	<i>PhD Researcher</i>	September 2012 - June 2018
	<ul style="list-style-type: none"><li>• Used techniques including the jack-knife method to derive signal from event-related potentials in electroencephalography (EEG)</li><li>• Developed 6 child-friendly computerized behavior tests (disguised as games)</li><li>• Used k-means clustering to classify children as "copers" or "strugglers" based on behavioral, eye-tracking, and self-report measures</li><li>• Used ICA to isolate brain activity from noise in EEG data</li><li>• Used mixed effects linear modeling to classify participants behavior over time</li><li>• Used linear regression to correlate trajectories of brain development and children's outcomes in a large (approximately 500 GB) MRI dataset</li><li>• Programmed data analyses and visual stimuli using R, Python, and Matlab</li><li>• Trained and mentored 6 junior research assistants and 7 volunteer interns</li></ul>	

### Davis Incubator Group

President

Student organized group at UC Davis

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 practice 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

### Laboratory on Genes and Behavior

Dr. Rebecca D. Burwell

Brown University Department of Psychology, Providence RI

Teaching Assistant

January 2010-May 2010

- Set up equipment for behavioral experiments run on knockout mice, including the Morris Water Maze, tail suspension and basic habituation tasks
- Explained procedures to students and helped them run the tasks

**PUBLICATIONS** **Popa AM**, Cruz J, Wong L, Harvey D, Angkustsiri K, Leckliter I, Perez-Edgar K, Simon TJ. Seeing Eye to Eye with Threat: Atypical Threat Bias Responses in Children with 22q11.2 Deletion Syndrome. *American Journal of Intellectual and Developmental Disabilities*. Nov 2019.

Linton SR, **Popa AM**, Luck SJ, Bolden K, Carter CS, Niendam TA, Simon TJ. Neural and behavioral measures suggest that cognitive and affective functioning interactions mediate risk for psychosis-proneness symptoms in youth with chromosome 22q11.2 deletion syndrome. *American Journal of Medical Genetics Part A*. April 2020.

Sharma A, Singh S, Wright B, Perry A, Woodbridge DM, **Popa AM**. Scalable Motor Movement Recognition from Electroencephalography using Machine Learning. *IEEE COMPSAC*. July

2019.

Agrawal P, Bhargavi D, Krishna G, Han X, Tevathia N, **Popa AM**, Ross N, Woodbridge DM, Zimmerman-Bier B, Bosl WJ. A Scalable Automated Diagnosis Feature Extraction System for EEGs. IEEE COMPSAC. July 2019.

McCabe KL, **Popa AM**, Durdle C, Amato M, Cabaral M, Cruz J, Wong L, Harvey D, Tartaglia N., Simon TJ. Quantifying the resolution of spatial and temporal representation in children with 22q11.2 deletion syndrome. Journal of Neurodevelopmental Disorders. Dec 2019.

*Accepted:* Wilson JD, Baybay M, Sankar R, Stillman P, **Popa AM**. Analysis of Population Functional Connectivity Data via Multilayer Network Embeddings. Network Science.

*Submitted:* **Popa AM**, Wilson JD. Functional Embeddings from Resting State fMRI Identify Differences in Schizophrenia.

## 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 and presented a workshop on 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

**Graduate Student Assembly**

Davis, CA

*Departmental Representative*

September 2013 - June 2015

- Attended meetings and voted on policy affecting graduate students at UC Davis and in the wider UC graduate student assembly
- Publicized information to graduate group

**AWARDS AND  
CERTIFICATES**

UC Davis Graduate Student Assembly Travel Award

2015-16 Academic Year

UC Davis FUTURE Certificate Track

2015-16 Academic Year

UC Davis Graduate Student Assembly Travel Award

2014-15 Academic Year

ERP Boot Camp (Dr. Steven J. Luck)

Completed July 2014

UC Davis Graduate Student Assembly Travel Award

2013-14 Academic Year

**TECHNICAL  
SKILLS**Software including: Python, PySpark, Tableau, R, Matlab, Jupyter, git, L<sup>A</sup>T<sub>E</sub>X

Packages including: sklearn, pandas, numpy, scipy, matplotlib, TensorFlow, keras, ggplot, nlme