

Margo Kersey

UCSF Dyslexia Center
Departments of Neurology and Psychiatry
San Francisco, CA
margo.kersey@ucsf.edu | margokersey@gmail.com
+1 (858) 354-0932

EDUCATION

2016-2020 **University of California, Los Angeles**
B.S. Applied Mathematics, Minor in Cognitive Science
GPA: 3.70/4.00

Notable Coursework: Machine Learning, Mathematical Modeling, Probability, Networks, Optimization, Python with Applications, Philosophy of Mind, Cognitive Development

Undergraduate Projects:

- COVID-19 Classification using Convolutional Neural Networks with Chest X-rays
- A Centrality-based Analysis of the Bitcoin Transaction Network

GRANTS, HONORS, & SCHOLARSHIPS

2024 UCSF WINGS Employee Development Grants for School of Medicine Career Staff Employees
2019 DAAD Scholarship for Research Internships in Science and Engineering
2018 UCLA Psychology Undergraduate Research Grant
2016-2020 Dean's List, College of Letters & Science

RESEARCH EXPERIENCE

Research Data Analyst

UCSF Dyslexia Center, Department of Neurology
San Francisco, CA
2022-Present

- Harmonized in BIDS and processed multimodal MRI data (structural, diffusion, functional) of 500+ research subjects with BIDS pipelines, creating consistently structured neuroimaging dataset readily available for lab-wide projects
- Developed custom diffusion tractography using subject level FreeSurfer ROIs with Python neuroimaging libraries (pyAFQ, DIPY, antspyx, nibabel)
- Improved workflow and efficiency by automating frequent tasks in Python, i.e. subject-level diffusion MRI presentations, REDCap API-powered database summaries

- Developed an interactive visualization platform to streamline clinical interpretation by enabling intuitive exploration of subject-level and group-level neuroimaging and behavioral data, enhancing accessibility and insight across diverse datasets
- Developed machine learning pipelines to predict neurodevelopmental diagnoses based on MRI and behavioral measures, cluster participants into phenotypic subtypes, etc.
- Teaching assistant at the UCSF Memory and Aging Center Artificial Intelligence Office Hours for assisting staff, postdocs, and faculty with Python and LLMs for research

Research Assistant

Forschungszentrum Jülich, Institute of Neuroscience and Medicine
Jülich, Germany
2019

- Developed custom EEG artifact removal pipeline in MATLAB to preprocess EEG data and analyze auditory mismatch negativity effects in healthy and schizophrenic subjects
- Performed correlation analysis of rs-fMRI network measures with resilience and personality traits resulting in a co-authored publication in Nature Scientific Reports [Altinok et al., 2021]
- Assisted with EEG setup for trimodal brain imaging data collection (MR-PET-EEG)
- Revised numerous scientific journal articles for clarity and grammar

Research Assistant

Computational Vision and Learning Lab, UCLA Department of Psychology
Los Angeles, CA
2018-2019

- Applied convolutional neural networks (AlexNet, VGG, ResNet, DenseNet) to images and video frames using Python's Keras and TensorFlow via remote computing to investigate computational models of human vision and perception
- Administered MATLAB experimental tasks measuring temporal boundaries in human memory for single-actor and multiple-actor sequences (Gennady Erlikhman, Hongjing Lu; Temporal Boundary Extension in the Representation of Actions. *Journal of Vision* 2019;19(10):38b. <https://doi.org/10.1167/19.10.38b>.)

PUBLICATIONS

1. Altinok, D.C.A., Rajkumar, R., Nießen, D. et al. Common neurobiological correlates of resilience and personality traits within the triple resting-state brain networks assessed by 7-Tesla ultra-high field MRI. *Sci Rep* 11, 11564 (2021). <https://doi.org/10.1038/s41598-021-91056-y>

MANUSCRIPTS IN PREPARATION

1. Kersey, M. *et al.* (in preparation). Characterizing Neural Signatures of Dyslexia and Co-occurring Math Learning Difficulties (MLD) with Machine Learning
2. Kersey, M. *et al.* (in preparation). Data-driven Cognitive and Neuroimaging Clusters in Persistent Dyslexia
3. Palser, E., Kersey, M. *et al.* (2024) Submitted to Annals of Dyslexia Special Edition. Language outcomes and structural anatomical correlates of early language delay in children with dyslexia during middle childhood.

POSTERS & PRESENTATIONS

1. Kersey, M. *et al.* (2024). *Data-driven Cognitive and Neuroimaging Clusters in Persistent Dyslexia*. Flux Society Annual Meeting, Baltimore, MD, United States.
<https://tinyurl.com/fluxsociety2024>
2. Carpenter, E., Kersey, M., *et al.* (2024) *Examining an Adaptive Assessment of Executive Functions (ACE-X) in Children with Dyslexia*. Flux Society Annual Meeting, Baltimore, MD, United States. <https://tinyurl.com/fluxsociety2024>
3. Kersey, M., *et al.* (2024) *Characterizing Neural Signatures of Dyslexia and Co-occurring Math Learning Difficulties (MLD) with Machine Learning*. Cognitive Neuroscience Society Annual Meeting, Toronto, ON, Canada.
<https://tinyurl.com/cogneurosociety2024>
4. Martin-Moreno, D.V.,...Kersey, M., *et al.* (2025). *Validity of the Adaptive Cognitive Evaluation Explorer (ACE-X) as a Battery of Executive Functioning in Children with Developmental Dyslexia*. Poster accepted for presentation at the International Neuropsychological Society Annual Meeting, New Orleans, LA, United States.
<https://the-ins.org/meetings/new-orleans-2025/>

WORKSHOPS & COMMUNITY ENGAGEMENT

- 2023-Present Organizing Committee & Event Staff, UCSF Brain Health Event
Brain health education, resources, and activities provided to BIPOC communities
- 2023-Present Founder, New Wave Clay
Handmade ceramics sold locally in San Francisco, CA
- 2023 Organizing Committee, [Bay Area Brainhack](#)
Joint UCSF-UC Berkeley-Stanford neuroscience hackathon open to the Bay Area community as part of Brainhack Global

- 2023 Attendee, NeuroHackademy, University of Washington eScience Institute
Intensive summer school in neuroimaging and data science
- 2017-2020 Founder and President, Irish Dancers at UCLA
On-campus student organization celebrating Irish culture through dance

TECHNICAL SKILLS

- Programming: Python (Scikit-learn, Nilearn, pyAFQ, DIPY, Antspyx, Nibabel, SciPy, Statsmodels, Stepmix, PCNtoolkit, Brainstat, LangChain, Pandas, NumPy, Keras, Tensorflow, Joblib, IPywidgets, Regex, Matplotlib, Seaborn, Plotly, Voila, Streamlit), Jupyter, MATLAB, Bash, Singularity, Docker, Github, Remote Servers & HPCs
- Neuroimaging: sMRIPrep, QSIprep, fMRIPrep, FreeSurfer, FreeView, MRICroGL, ITK-Snap, MI-Brain
- Machine Learning & AI: Neural Networks, Regression, SVM, Feature Selection, Clustering, LLMs (Huggingface, OpenAI, Ollama)
- Microsoft Office Suite (Outlook, Word, PowerPoint, Excel), Adobe Illustrator

REFERENCES

Pedro Pinheiro-Chagas

University of California, San Francisco
pedro.pinheirochagas@ucsf.edu

Maria Luisa Gorno Tempini

University of California, San Francisco
marialuisa.gornotempini@ucsf.edu

Maria Luisa Mandelli

University of California, San Francisco
marialuisa.mandelli@ucsf.edu

Hongjing Lu

University of California, Los Angeles
hongjing@ucla.edu

Gennady Erlikhman

Apple Inc.
gennaer@gmail.com