

WILLIAM THYER

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Graduate-level psychologist, cognitive neuroscientist, and data scientist. Expertise programming in R, Python, and MatLab; designing and conducting psychology experiments; machine learning, statistical analysis, and data visualization.

EDUCATION

- 2023 **PhD Integrative Neuroscience, Psychology**
University of Chicago, Institute for Mind and Biology
- 2017 **BS Psychology, Minor in Statistics, cum laude**
Florida State University

EXPERIENCE

- Present **Graduate Researcher**, Awh & Vogel Lab, University of Chicago
- Designing, programming, and conducting large-scale psychology experiments (50+ participants, 100+ sessions, 100,000+ individual trials)
 - Preprocessing and statistical analysis of human behavioral and neural data including artifact detection, clustering analyses, and multivariate regression
 - “Decoding” of cognitive states from neural data with Scikit-Learn
 - Writing publications in peer-reviewed journals such as *Journal of Neuroscience*
- 2021 **Data Science Intern**, Spark Neuro
- Developing machine learning models for diagnosis of neurological disorders with random forest and XGBoost
 - Creating custom 3D interactive visualizations of neural data
 - Utilizing AWS cloud services and parallel processing with large datasets

RELEVANT ACADEMIC PROJECTS

Decoding Working Memory States from Human Neural Data

- Designed and conducted experiments to test hypotheses about human memory
- Collected and processed over 100 sessions of human EEG, eye tracking, and behavior
- Built machine learning models to classify working memory states from EEG
- Submitted an academic article to a peer-reviewed journal (currently under review)
- Tools used: Python, Scikit-Learn, MNE, Scipy, Matplotlib, Pandas, Git

Project Manager for Visual Memory Tracker App on iOS and Android

- Coordinated a team of researchers, testers, and developers
- Modelled individual differences in temporal fluctuations of cognition
- Tools used: Python, R, Matplotlib, dplyr, ggplot2

EEG and Eye Tracking Preprocessing and Artifact Rejection Pipeline

- Integrated eye tracking, EOG, and EEG artifact rejection
- Improved useability by developing generated reports after processing
- Tools used: EEGLAB, EYE-EEG, ERPLAB, Matlab, Git

TEACHING

- 2020-2021 **Psychological Research Methods**, Teaching Assistant
- 2020-2022 **Attention and Memory in the Mind and Brain**, Teaching Assistant