

WILLIAM THYER

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Neuroscience and psychology PhD with 7 years of experience in research, data science, and machine learning. I have expertise in Python programming, designing experiments, as well as scientific writing, statistical analysis, and data visualization. I am confident in my ability to contribute to any team seeking an experienced and skilled data scientist.

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

- 2018 - Present **Graduate Researcher**, Awh & Vogel Lab, University of Chicago
- Designing, programming, and conducting large-scale research on human memory and attention using electroencephalogram (EEG), eye tracking, and behavior (100+ participants, 300+ sessions, 100,000+ trials)
 - Developing machine learning pipelines for EEG in Python with Scikit-Learn, Fast.ai, and Scipy
 - Writing publications in peer-reviewed journals such as *Journal of Neuroscience* and *Psychological Science*
- 2022 **Data Science Intern**, Intuitive Surgical
- Developing systems to provide feedback to surgeons during robotic surgeries
 - Building machine learning models trained on multivariate time series data with Scikit-Learn, TSFresh, and TSLearn
 - Applying unsupervised clustering methods to improve model interpretability
- 2021 **Data Science Intern**, Spark Neuro
- Developing machine learning models for diagnosis of neurological disorders using random forest and XGBoost
 - Creating custom 3D interactive visualizations of neural data
 - Utilizing AWS cloud services and parallel processing with large datasets

RELEVANT PROJECTS

EEG Decoder, Machine Learning Library for EEG Analysis

- Created a library of time series machine learning tools for EEG analysis
- Currently being utilized by more than 5 users for cognitive neuroscience research
- Wrote detailed documentation and tutorials for users and developers
- Tools used: Python, Scikit-Learn, Scipy, Matplotlib, Seaborn

Calm Hands, AI-Powered App to Reduce Habitual Nail-Biting

- Created a Tkinter desktop application that provides real time feedback on nail-biting
- Uses a fine-tuned deep neural network to classify frames from the webcam
- Tools used: Python, PyTorch, Fast.ai, Tkinter, OpenCV

EEG and Eye Tracking Preprocessing and Data Cleaning Pipeline

- Integrated eye tracking, behavior, and neural data for preprocessing
- Improved useability by developing generated reports after processing
- Tools used: Matlab, EEGLAB, Git