WILLIAM THYER

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I am a neuroscience and psychology PhD with 6 years of experience in research, data science, and machine learning including 2 data science internships. I have expertise in Python and SQL programming, statistical analysis, and data visualization, as well as designing experiments and scientific communication for technical and general audiences.

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 using neural data, eye tracking, and behavior
- Leading teams of researchers and collaborators on multi-year research projects
- 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
- Adopted by 2 research labs and used in multiple peer-reviewed articles
- Improved useability by developing generated reports after processing
- Tools used: Matlab, EEGLAB, Git