

# William Thyer

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## Education

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### PhD Integrative Neuroscience, Psychology

University of Chicago, Institute for Mind and Biology

August 2023

Chicago, IL

### BS Psychology, Minor in Statistics

Florida State University

2017

Tallahassee, FL

## Experience

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### Graduate Researcher

Awh & Vogel Lab, University of Chicago

July 2018 - July 2023

Chicago, IL

- Lead teams of researchers in multi-year projects resulting in publications in high-impact peer-reviewed journals, advancing knowledge in the field of cognitive neuroscience
- Developed a machine learning library for EEG analysis in Python, which improved the accuracy and reproducibility of analyses and is now used by more than 5 researchers
- Collected multi-modal datasets comprising hundreds of hours of EEG, eye-tracking, and behavioral data to provide robust and replicable results
- Created an data processing pipeline that synchronizes and cleans neural, eye-tracking, and behavioral data which is now used by 2 research labs and multiple peer-reviewed articles

### Data Scientist Intern

Intuitive Surgical

June 2022 - September 2022

Atlanta, GA

- Researched real-time feedback systems for surgeons during robotic surgeries, leading to an improved understanding of potential future applications
- Built machine learning models trained on multivariate time series data with Scikit-Learn, TSFresh, and TSLearn
- Applied unsupervised clustering methods to improve model interpretability, providing insights into model performance and improving feedback systems

### Data Scientist Intern

Spark Neuro

July 2021 - December 2021

Remote

- Developed machine learning models for the diagnosis of neurological disorders, improving accuracy and specificity of diagnosis processes
- Created custom 3D interactive visualizations of neural data which provided more specific and interpretable medical reports
- Utilized AWS cloud services and parallel processing techniques to efficiently process large datasets, reducing computation time and improving data analysis efficiency

## Relevant Projects

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

- Developed a Tkinter desktop application that utilizes a fine-tuned deep neural network to provide real-time feedback on nail-biting behavior from a webcam data stream
- Collected a large data set to train a high-accuracy model capable of recognizing nail-biting habits

### CityMapper, Package for Visualizing and Analyzing Bicycle Infrastructure

- Developed a tool for visualizing and analyzing cycleway networks in major US cities using OSMnx, a Python library for accessing OpenStreetMap data
- Created an online interface so users could generate their own custom maps