Anthony Romyn

Details

21 Carlton Street, Toronto, M5B1L3
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Website

anthonyromyn.ca

Skills

Python (NumPy, pandas, scikit-learn)

PyTorch (CNNs & Transformers)

Supervised Machine Learning

Predictive Modeling

Statistical Analysis

Experimental Research Methods

Linux, git, & HPC experienced

R (lme4, ggplot)

AutoML (AutoGluon, Auto-sklearn)

Presenting & Lecturing

Communication & Teamwork

Mentorship

Academic Writing

Psychology/Behavioural Science

Neuroscience (fMRI & EEG)

Education

Masters
Computational-Cognitive Neuroscience
University of Toronto

Bachelors
Psychology & Neuroscience
Brock University

Experience

Data Scientist
State++

February 2022 — Current | Founder/CEO: Dr. Craig Alan Friedman

- **Created and optimized** Python pipelines for tabular and time-series modeling in a neuro-tech startup.
- **Led the development** of supervised predictive models, focusing on data preprocessing, feature generation, and modeling with scikit-learn, XGBoost, and PyTorch.
- **Designed and implemented** a custom time-series Vision Transformer and a CNN architecture and hyperparameter search program for model optimization.
- **Achieved 2nd place** in the NeuroTechX Global Hackathon Brain Age Prediction Challenge using time-series and tabular modeling to predict age to a mean absolute error of 1.60 years. [Github]

Graduate Work in Masters & PhD Computational Neuroscience
University of Toronto

September 2019 — Dec 2021 | Supervisor: Dr. William Cunningham

- **Specialized in modeling** human decision-making by applying machine learning methods to behavioral and brain activity data.
- **Developed a novel feature variable** for modeling human decision-making in a master's thesis, utilizing mixed-effects linear and logistic regressions. [Masters Thesis]
- **Pioneered PhD research** that uncovered a new pathway of information flow between brain regions during decision-making. [Sample Write-up and R code]
- **Applied dimensionality reduction techniques** to generate features that quantify the complexity of brain activity as a predictive signal. [See More]

Data Analyst
University of Toronto

September 2015 — August 2019 | Supervisor: Dr. William Cunningham

- **Predicted lapses in attention** from brain activity data up to 7 seconds before occurrence using linear and logistic mixed-effects regression models. [See More]
- **Served as an analyst** for a large international team focused on investigating the statistical replicability of neuroimaging research. [See More]
- **Applied multiclass-classification algorithms** to map brain data to human decision-making, uncovering new statistical structure in frontal cortex activity.
- **Mentored and supervised** 15+ undergraduate and graduate students in computational neuroscience, leading a 3+ year-long undergraduate analysis team. [See More]