Jared Collina

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Ph.D. Level Data Scientist

Highly analytical and quantitatively skilled data scientist with a Ph.D. in Neuroscience and a Master's in Statistics. Experienced in modeling decision-making behavior, reinforcement learning, and Bayesian statistics, with a strong background in machine learning, psychophysics, and auditory neuroscience. Proficient in Python and MySQL, with expertise in designing experiments, analyzing complex datasets, and developing actionable insights from real-world data.

Skills

Languages : Python scientific stack, Jupyter, Matlab, R, MySQL, PyTorch

Expertise : Scientific Communication, Data Mining, Statistical Inference, Data Visualization, Machine Learning

Experience

Neuroscience Ph.D. Researcher Aug 2018 – Present
University of Pennsylvania *Philadelphia, PA*

- Created an **integrated cloud-based analysis pipeline using AWS and Python** to synchronize neural data from multi-channel arrays with behavioral data, streamlining the data extraction, cleaning, and transformation processes.
- Developed an **open-source Matlab toolbox** as part of a multidisciplinary team that was used by other research labs to model image formation in the tree shrew visual system (Code).
- Led a team of researchers in implementing time-series clustering alongside a **custom reinforcement learning model in Python** to study the role of the primary auditory cortex in the learning of auditory categories (Paper, Code).
- Showed that variability in how humans disregard irrelevant auditory information can be captured by a **Bayesian graphical model**, yielding a tool for studying how humans navigate complex auditory environments (Paper).
- Mentored graduate students and post-doctoral researchers in **data visualization and computational modeling**, and served as TA for a 30-student undergraduate introduction to MATLAB course.

Statistics M.A. Researcher Aug 2019 – Present
University of Pennsylvania *Philadelphia, PA*

- Collaborated with a multidisciplinary team to design and implement a specialized reinforcement learning model in Python tailored to optimize maze navigation within a dynamic environment.

Engineering Research Intern May 2015 – Aug 2015
AnthroTronix *Silver Spring, MD*

- Organized and analyzed data from human subject research. My findings were used to optimize a battery of tests that, combined, were able to diagnose signs of early onset PTSD.

Education

University of Pennsylvania Philadelphia, PA
Ph.D. in Neuroscience *Aug 2018 – Feb 2025 (Expected)*

University of Pennsylvania Philadelphia, PA
M.A. in Statistics *Aug 2019 – Feb 2025 (Expected)*

Haverford College Haverford, PA
B.S. in Physics *Aug 2014 – May 2018*

Leadership

- **Comp. Neuro Section Chief, Brains in Briefs** (training Ph.D. students to make technical literature more accessible)
- **Founder, Biomedical Graduate Studies Program Club Soccer** (school-funded soccer club accessible to all graduate students)
- **Volunteer Coach, Philadelphia Open Soccer** (free soccer for low-income youth in West Philadelphia)
- **Seminar Committee Member, Computational Neuroscience Initiative** (Organized interdisciplinary seminars attended by dozens of community members)