(917)319-0983
New York, NY
william.mau92@gmail.com

William Mau, PhD

Postdoctoral researcher

GitHub: wmau
LinkedIn: wmau

I am an aspiring data scientist with a PhD in neuroscience and 9+ years of experience in data collection, data cleaning, analysis, visualization, and interpretation of high-dimensional data using Python. I use machine learning and statistical approaches (e.g., random forest classification, graph theory, hierarchical clustering, and linear mixed models) to identify patterns in my neuroimaging data and tell rich stories. My goal is to translate these skills to make tangible impacts on a data science team.

Education

PhD in Neuroscience, *Boston University. GPA: 3.97* MAY 2019
BA in Biological Sciences and Psychology, *Cornell University. GPA: 3.79, magna cum laude* MAY 2014

Skills

Tools and Languages	Python, Jupyter notebooks, Git, SQL, MATLAB, Arduino, Autodesk
Quantitative Skills	Machine learning, inferential and descriptive statistics, data visualization, dimensionality reduction
Python Libraries	numpy, pandas, scikit-learn, scipy, matplotlib

Technical Experience

Postdoctoral researcher @ *Icahn School of Medicine at Mount Sinai, New York, NY* **2019 — Present**
- To date, received a >$190k federal award, produced 3 review articles, and 1 preprint.
- Built a SQLite database for querying metadata from experiments encompassing 100 mouse subjects.
- Built and contributed to Python-based data analysis pipelines for neuroimaging data that have been downloaded 11,000+ times.
- Used random forest classification to decode neural activity at ~80% accuracy.

Consultant @ *MetaCell, virtual* **2021 — Present**
- Built 5+ Juypter notebooks on a cloud workspace, analyzed 2 labs' neuroimaging data, then presented findings to stakeholders.

Graduate researcher @ *Boston University, Boston, MA* **2014 — 2019**
- Resulted in 1 first-author publication, 1 co-first-author preprint, 4 middle author publications, and 4 research awards.
- Used naive Bayes classification and bootstrapping to decode neural activity 2x better than chance.

Undergraduate researcher @ *Cornell University, Ithaca, NY* **2012 — 2014**
- Resulted in 1 second-author publication, a $1000 research award, and magnua cum laude honors.
- Learned basic statistical methods for analyzing high-dimensional neural data, such as multiple linear regression.

Select Publications

Dong Z., **Mau W.**, Feng Y., Pennington Z.T., Chen L., Zaki Y., Rajan K., Shuman T., Aharoni D., & Cai D.J. (2021). Minian: An open-source Miniscope analysis pipeline. *eLife*, under revision.

Kinsky N.R., **Mau W.**, Sullivan D.W., Levy S.J., Ruesch E.A., & Hasselmo M.E. (2020). Trajectory-modulated hippocampal neurons persist throughout memory-guided navigation. *Nat. Commun.* 11, 2443. doi.org/10.1038/s41467-020-16226-4.

Miller A.M.P., **Mau W.**, & Smith D.M. (2019). Retrosplenial cortical representations of space and future goal locations develop with learning. *Curr. Biol.* 29, 2083-2090.e4. https://doi.org/10.1016/j.cub.2019.05.034

Mau W., Sullivan D.W., Kinsky N.R., Hasselmo M.E., Howard M.W., & Eichenbaum H. (2018). The same hippocampal CA1 population simultaneously codes temporal information over multiple timescales. *Curr. Biol.* 28, 1499-1508. https://doi.org/10.1016/j.cub.2018.03.051

Notable Awards

Ruth L. Kirschstein individual postdoctoral fellowship: $194,790 over 3 years **2020-2023**
Henry I. Russek Day student achievement award, 3rd place and 1st place: total $1300 **2018-2019**
Magna cum laude in Psychology **2014**

Activities

Mount Sinai Neuroscience (MSN) seminar board member **2021 — present**
- Invited, reviewed, and hosted guest speakers for our institutional neuroscience seminar series.

Miniscope workshop instructor **2020 — present**
- Assisted and lectured at hands-on workshops aimed at introducing imaging technology to new labs internationally.

Guest lecturer **2020 — present**
- Lectured at various Mount Sinai graduate-level neuroscience courses.