

Tyler Wied

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DATA SCIENCE SKILLS

- **Languages:** Python, SQL, R, Bash
- **Machine Learning & Statistics:** supervised and unsupervised learning, dimensionality reduction, natural language processing, network analysis, feature engineering, modeling and simulations, time series, Monte Carlo methods, bootstrap, ANOVA, χ^2 test, A/B testing
- **Tools:** NumPy, pandas, Git, scikit-learn, gensim, NLTK, Dash, Jupyter, Matplotlib
- **Computing:** High-performance and parallel computing, Unix, SSH

EXPERIENCE

- **Insight Data Science** Seattle, WA
Data Science Fellow Jan 2019 - Present
 - Consulted for a cryptocurrency hedge fund to identify trends across five key cryptocurrencies.
 - Developed project roadmap and architected solution using **machine learning** (NLP, topic modeling, sentiment analysis, network analysis).
 - Delivered results in an interactive dashboard that displays networks, attitude levels, and the top 20 topics across **200k+ Tweets and 25k+ Twitter users**.
- **Johns Hopkins University School of Medicine** Baltimore, MD
Post-Doctoral Research Fellow & PhD Candidate 2012 - 2019
 - Discovered important flexibility in a protein essential for cognitive function from **10+ TB of simulation data**, numerical analysis, and **unsupervised machine learning** (principal component analysis).
 - Wrote **custom Python scripts** to validate simulation results with comparisons to real-world observations (χ^2 test). The results showed a **6-fold improvement** over previous predictions.
 - Built pipeline to simultaneously run hundreds of simulations on **cluster compute nodes**.
 - Collaborated cross-functionally to identify the most promising targets in a toxin study by combining features from diverse datasets, **reducing search space more than 90%**.
 - Leadership and communication: trained and led a team of undergraduate and graduate students. Served as tutor to 15+ students in two graduate-level biophysics courses.
- **University of Wisconsin-Madison** Madison, WI
Research Assistant 2009 - 2012
 - Developed first genetic mouse model for mania. Conducted behavioral experiments for hyperactivity and identified **15+ statistically significant** indicators of mania (one-way ANOVA). This mouse line was subsequently used to identify key genetic similarities to humans with bipolar disorder.
 - Isolated individual contributions of key features affecting DNA stability across 50+ experimental conditions in MATLAB, enabling prediction with those single features in future studies.

EDUCATION

- **Johns Hopkins University School of Medicine** Baltimore, MD
PhD, Biophysics (National Science Foundation Graduate Research Fellow) 2012 - 2018
- **University of Wisconsin-Madison** Madison, WI
BS, Biochemistry (Honors in Research) 2008 - 2012