

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, 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 build a webapp that structures Twitter activity related to cryptocurrencies by identifying trending accounts, topics, and gauges community-level attitudes.
 - Scraped 200k+ Tweets and used **network analysis** to construct graphs, identify central nodes, and detect communities.
 - Used **NLP** to identify topics of conversation (LDA with tf-idf), and performed **sentiment analysis** on Tweets to quantify user attitudes.
 - Built webapp with Dash to visualize and interact with results to discover actionable information.
- **Johns Hopkins University School of Medicine** Baltimore, MD
Post-Doctoral Research Fellow & PhD Candidate 2012 - 2018
 - To understand glutamate receptor function at an atomic-level, collected and processed **10+ TB of simulation** data (python, bash, Tcl) and conducted numerical analysis to **classify** simulation snapshots into discrete states (numpy), calculate physical properties, and perform **principal component analysis** to identify major modes of motion (R).
 - Discovered novel flexibility in the GluK2 glutamate receptor using physics-based simulation methods; successfully validated simulation-based model with **χ^2 goodness-of-fit test**.
 - Delivered data-driven recommendations for future toxin research from analysis of mutation and simulation datasets, **reducing search space approximately 90%**.
- **University of Wisconsin-Madison** Madison, WI
Undergraduate Research Assistant 2009 - 2012
 - Developed and validated a new mouse model for mania for a line of mice that are 2x more active than control mice. Collected and extracted data from mouse behavioral experiments for hyperactivity, and performed **one-way ANOVA** tests to identify differences between control and experimental mouse groups.

EDUCATION

- **Johns Hopkins University School of Medicine** Baltimore, MD
PhD in Biophysics 2012 - 2018
- **University of Wisconsin-Madison** Madison, WI
BS in Biochemistry 2008 - 2012