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, ANOVA, χ^2 test, bootstrap
- **Tools**: NumPy, pandas, Scikit-learn, 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*