TRAVIS AARON HOPPE, PhD

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highlights

Established scientist: Twelve publications (seven first-author) across multiple disciplines in Nature, PLoS One, Physical Review and more.

Project leader and team coordinator: Served as the principal investigator for several projects managing small teams for highly technical tasks.

Programming polyglot and dedicated analyst: Highly proficient in the full scientific python/C++ stack, database backends, and data visualization. Proponent for scientific standards and reproducibility.

Professional outreach: Active presenter and organizer in both the data community (Data Wranglers and Hack & Tell) and scientific enterprise (Biophysical society, American Physical Society, and more). Firm believer in STEM outreach to public schools from professionals.

experience

2016-current **Data Scientist & Portfolio Analyst, Lexical Intelligence**

Worked under the Office of Director at the National Institutes of Health (NIH) to perform analysis on the NIH grant and publication portfolios. Leveraged cutting edge machine learning models and computational linguistics to characterize science funding, grant success, and mentorship to help inform policy decisions made by NIH Leadership.

2014-2016 **Postdoctoral Fellowship, Intramural Research Program**

Fellowship at the NIH in the Theoretical Biophysics laboratory serving under Robert Best. Established and published key results with our team concerning bioinformatics and internal friction for the protein folding problem.

2011-2014 **Research Associate, Intramural Research Program**

Worked in the Physical Biochemistry laboratory at the NIH with Allen Minton to develop multi-scale theoretical and computational models to study protein folding, structure, and protein-protein interactions. Worked in direct collaboration with experimentalists to test and validate models. Designed and managed large-scale parallel programming projects (3000+ cores).

2005-2011 **Teaching Assistant, Drexel University**

Organized, taught, and ran over 22 undergraduate courses at Drexel university. Developed lesson plans and curricula. Restructured the entire computational component for physics majors by transitioning from FORTRAN to Python.

education

2011: Doctor of Philosophy, Physics

2005: Bachelor of Science Physics, Bachelor of Science Mathematics

skills

Programming **Core Languages** (Python, C++, C), **Web Design** (HTML5, JavaScript, AWS), **Visualization** (d3, TikZ), **Database** (SQLite, HDF5), **Typesetting** (LaTeX) **Version Control** (git, mercurial).

Data Science **Machine Learning** (word2vec, Random Forests, Recurrent Neural Networks), **Graph Theory** (Network Flow Analysis, Isomorphism detection, Topology), **Dimensionality Reduction** (Spectral Clustering, Principal Component Analysis), **Natural Language Processing** (Semantic Analysis, Context Free Grammars), **Data Wrangling** (web spiders, data acquisition), **Statistics** (Bayesian, Maximum Likelihood).