TRAVIS AARON HOPPE, PhD

travis.hoppe@gmail.com (775) 287-4033

highlights

Established scientist: Eleven publications (six 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.

education

2011   Doctor of Philosophy, Physics

Drexel University, awarded multiple scientific grants and winner of the top teaching fellow for the University.

2005   Bachelor of Science Physics, Bachelor of Science Mathematics

University of Nevada, served on student-body Senate where state-level legislation was proposed to standardize and publish professor evaluations.

experience

2014-current   Postdoctoral Fellowship, Intramural Research Program

Fellowship at the National Institutes of Health (NIH) in the Theoretical Biophysics laboratory serving under Robert Best. Established and published key results with our team concerning internal friction and bioinformatics for the protein structure and function.

2011-2014   Research Associate

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

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.

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** (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), **Game Theory** (Nash Equilibrium).