JoshuaFriedman PhD

Data Scientist

contact

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http://www.smith.com

machine learning

logistic regression
random forrest
niave bayes
neural network
k-means clustering

science

computational biology
magnetic resonance
synthetic biology
dna damage repair

programming

♥ JavaScript
Python, C++, PHP
CSS3 & HTML5

programming

python ♥ : scikit-learn, pandas, numpy, scipy, flask, matplotlib, cython
database: mysql, mongodb, json, hdf
matlab: signal processing, optimization toolbox
web: html, javascript, d3.js | **general:** git, regex, linux

experience

Working

2013–Now **NYU Langone Medical Center** New York, NY
Department of Radiology

- Accelerated numerical simulation ~10x by implementing memoization algorithms to recognize and pre-cash simulation invariant systems of non-homogeneous differential equations.
- Implemented L1-norm reconstruction algorithms that cut MRI scan time requirements by half.
- Created data fitting and optimization packages in MATLAB & Python/Cython for finding constrained non-linear least squares solutions to experimental data containing unknown parameters.

2014–2015 **Department of Defense -- Research Directorate** Washington, DC
Science & Technology Policy Fellow AAAS

- Established bilateral research collaborations in quantum science & technology with the United Kingdom Ministry of Defence.
- Resolved contracting disputes between DoD research granting agencies and universities.

2011–2013 **University of Washington** Seattle, WA
Institute for Protein Design

- Developed a hybrid Naïve Bayes and Simulated Annealing optimization approach as part of the commercial C++ package ROSETTA, for the design of the first generation of synthetic DNA-binding proteins.

Side Projects

Homsite Conversion scikit-learn, pandas, numpy, scipy, flask, matplotlib, cython
Voting Conformity Web App scikit-learn, pandas, numpy, scipy, flask, matplotlib, cython
Science Word Cloud scikit-learn, pandas, numpy, scipy, flask, matplotlib, cython

education

2005–2011 **PhD** Biophysics **Johns Hopkins University**
Authored 8 research publications (Nature, Biochemistry, JACS, *et al.*) | Book on DNA repair | Patent for MRI technology.

2001–2005 **BS** Biochemistry & Molecular Biology **Pennsylvania State University**

awards

2011 **Postgraduate Scholarship** School of Business, The University of California
Awarded to the top student in their final year of a Bachelors degree. Mastered the art of filing accurate TPS reports.

communication skills

2011 **Oral Presentation** California Business Conference
Presented the research I conducted for my Masters of Commerce degree.

2010 **Poster** Annual Business Conference, Oregon
As part of the course work for BUS320, I created a poster analyzing several local businesses and presented this at a conference.

interests

professional: data analysis, company profiling, risk analysis, economics, web design, web app creation, software design, marketing **personal:** piano, chess, cooking, dancing, running

publications