Joshua I. **Friedman**

Data Scientist · Problem Solver · Ph.D. Biophysics

New York NY

(+1) 213-537-4331 | josh.nmr@gmail.com | https://github.com/jfried23 | joshuaivanfriedman

Innovative problem solver. Constantly collaborating across the business to rethink prevailing assumptions, technical approaches and product deliverables. Pushing teams & industries to derive insights from data differently and better.

Experience

Nielsen
New York, NY

VP Data Science – Machine Learning
Aug. 2022 – Present

- R&D efforts to combine information from non-overlapping datasets using generative models of joint probability. This work is allowing company to aggregate anonymized 3rd party datasets and build measurement products that are compliant with future consumer privacy laws.
- Built deep recommender engine for imputing missing survey responses, reducing consumer survey requirements, our principal driver of costs.
- Drove a strategic redesign of an advertisement effectiveness product to focus on quantifiable behavioral changes, rather than more traditional descriptive summaries of observational data common to the marketplace.
- Lead software engineering teams productionizing three new SaaS products. Oversaw architectural design and taught software design patterns.

Ordaos Bio
New York, NY

Principal AI Scientist
Sep. 2021 - Aug. 2022

- Development of a self-attention based graphical convolutional network to identify unstable 3-D protein conformations generated by AlphaFold with greater than 90% accuracy. Network served as screening tool and reinforcement learning critic.

Nielsen
New York, NY

Sr. Principal ('18-'21) – Principal ('17-'18) – Lead ('16-'17) Data Scientist
Sep. 2016 - Sep. 2021

- Lead team developing deep variational inference methods and tools. Scaled Bayesian models of digital ad exposure to large datasets.
- Developed and deployed a deep learning pipeline (pyspark, pytorch, & cvxopt) for imputing demographic information from cable box tuning data. This imputation pipeline feeds numerious core measurement products in the US.
- Instructed bi-yearly classes for internal emerging leadership program in data science.

Skills

Machine Learning	Deep Learning, Bayesian Optimization, Probabilistic Modeling, Discrete Optimization, Graph Convolution
Programming Experience	Commercial Scientific Software Development In Python & C++. Design Patterns. Map Reduce, MPI.
Python Tools	pytorch, pyro, numpyro, sklearn, numpy, cvxopt, scipy, pandas, sqlalchemy, xgboost
Database	PySpark, PostgreSQL, MongoDB

Education

University of Washington / NYU Langone / U.S. Department of Defense
Seattle / New York / DC

Computational Biophysics – Postdoctoral Researcher
2011–2016

- Scientific software development in C++ for a protein modeling tool used by 10,000+ commercial license holders.

Johns Hopkins University
Baltimore, MD

PhD. in Biophysics
2005–2011

- Emphasis on development of computational methods for collection and of analysis magnetic resonance imaging data.
- Ten publications in journals including JACS, Biochemistry and Nature.

Pennsylvania State University
State College, PA

B.S. in Biochemistry & Molecular Biology
2001-2005