

MICHELLE GILL, PH.D.

Data scientist, biophysicist

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EDUCATION

Ph.D. Molecular Biophysics & Biochemistry

2006, Yale University, *New Haven, CT*

B.S. Biochemistry, Summa Cum Laude

2001, University of Kansas, *Lawrence, KS*

SKILLS

Programming: Python, Matlab, C, R, Bash

Big data: Spark, Dask

Machine learning: Supervised and unsupervised algorithms, Clustering, Natural language processing, Principal component analysis, Recommender systems, Computer vision, Neural networks, Deep learning, Compressed sensing

Statistics: Regression (linear, logistic, non-linear), Monte Carlo simulations

Databases: PostgreSQL, MongoDB

Other: Unix, Git, AWS, Docker, Flask, LaTeX

AWARDS

- Ruth L. Kirschstein National Research Service Postdoctoral Fellowship
- NSF Graduate Research Fellowship
- Barry M. Goldwater Scholar
- Kansas Board of Regents full-tuition merit scholarship

EXPERIENCE

Senior Data Scientist

2016 – Present

Metis

- Designed and created Hadoop and Spark machine learning and NLP curriculum using self-made Docker containers
- Conducted corporate trainings focused on Python, Spark, Hadoop, and Hive
- Developed 12-week machine learning course for F100 company
- Co-instructed 12-week data science bootcamps
- Developed and conducted take home coding exercise to assist with interview preparation

Research Scientist

2014 – 2016

National Cancer Institute

- Developed NESTA-NMR, which enables up to 100X faster acquisition of large (~10 GB) experimental data sets
- Created website and documentation for NESTA-NMR
- Elucidated mechanisms of cancer pathway using high-resolution experimental techniques

Postdoctoral Research Fellow

2008 – 2014

Columbia University Medical Center

- Used Monte Carlo simulations to model effect of physical changes on enzyme activity
- Developed MFOutParser, a Python library that parses a challenging text format, enabling 10X faster analysis times
- Member of team that studied anti-oncogenic associated mechanisms of substrate binding to AlkB, a DNA repair enzyme

Postdoctoral Research Fellow

2007 – 2008

University of Kansas

- Developed principal component analysis-based method to visualize changes in vaccine structure that are critical for efficacy

Consultant

2006 – 2007

The Boston Consulting Group

- Developed Excel-based statistical tools and Access database for organizational streamlining of pharmaceutical client
- Part of team that developed municipal bond investment strategy for financial services client
- Member of team awarded 2007 Global Strategy Olympics Prize for pharmaceutical client work

OTHER PROJECTS

- Used computer vision to develop a wine label recognition application
- pdLSR is a library for performing linear and non-linear least squares regression in a dataframe-aware fashion