Nirmal Krishnan

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EDUCATION

JOHNS HOPKINS UNIVERSITY
M.S. in Computer Science
Expected Dec. 2018 | Baltimore, MD
Cum. GPA: 4.0 / 4.0

B.S. in Computer Science
Expected May 2018 | Baltimore, MD
Cum. GPA: 3.8 / 4.0
Whiting School of Engineering
Dean's List

COURSEWORK

PRIOR COURSEWORK:
Bayesian Statistics
Machine Learning
(Teaching Asst- Spring 2017)
Algorithms
(Teaching Asst- Fall 2017)
Computational Genomics
Object Oriented Software Engineering
Advanced Topics in Genomics Analysis
Time Series Analysis
Data Structures
Probability & Statistics

INCOMING COURSEWORK:
Introduction to Deep Learning
Machine Learning: Data to Models
Parallel Programming
Genomics Research

SKILLS

Experienced:
Python • Java • Matlab • LaTeX
Familiar:
C • C++ • R • SQL • Assembly

LINKS

Github:// **nkrishn9**
LinkedIn:// **nirmal-krishnan**
Quora:// **Nirmal-Krishnan-8**

ACTIVITIES

Music Director for Johns Hopkins Kranti (South Asian a Capella Group)
Teaching Assistant
Intermural Basketball Captain

INTERESTS

Singing • Cooking • Traveling • Sports Analytics • Genomics Research

EXPERIENCE

MACHINE LEARNING GROUP AT JHU | Student Researcher
August 2017 - Current | Baltimore, MD

- Working with Dr. Alexis Battle on research in machine learning applied to computational genomics using off-the-shelf and bayesian methods.
- Using Hidden Markov Models to predict trajectories of stem cells and identify hidden stages of differentiation based on RNA-seq gene expression data.

GOLDMAN SACHS | Summer Analyst (Quantitative Research)
May 2017 – August 2017 | New York City, NY

- Developed pricing model in Python that constructs proxy baskets for foreign ETFs using eigenvalue decomposition, principal component analysis, weighted-least squares regression, and the L-BFGS optimizer.
- Created a model using survivor analysis (Cox-Multiplicative) to predict the probability of a trade being filled based on edge, DV01 risk, and other factors.
- Rotated on Electronic Market Making (Cash Equities), Quant Volatility Trading (Options Market Making), and FICC Systematic Market Making.

TRACELINK | Software Engineering Intern (FirstMark Fellow)
May 2016 – Aug 2016 | Boston, MA

- Selected as 1 of 15 fellows from a pool of over 1,300 applicants to participate in the FirstMark Elite Program, in which fellows are matched to top start-ups around the country.
- Created an API in Scala that allows pharmaceutical manufacturers/ wholesalers to automatically report shipments and receipt confirmations to the government in order to meet compliance regulations.

CLEVELAND CLINIC | Computational Research Intern
May 2012 – August 2013 | Cleveland, Ohio

- Employed skills in Python/R to collect/clean data and to perform multivariate analyses on large medical datasets for patients with prostate cancer.
- Used historical PSA rates to predict trajectories of prostate cancer development. Published two works on findings in national urology journals.

PROJECTS

PREDICTING GENETIC RISK TO HG PROSTATE CANCER
Used somatic single-nucleotides polymorphisms to build a classification engine that can predict genetic risk of developing high-grade prostate cancer. Surveyed variety of methods, including logistic regression, support vector machines, and neural networks (MLP). Used with prognostic indicators, family history, and lifestyle choices, tool can help physicians predict risk of cancer.

COLLABORATIVE FILTERING RECOMMENDATION ENGINE
Surveyed the effects of different subset selection techniques on neighborhood based collaborative filtering in the context of movie recommendation. Built optimal filtering engine capable of recommending movies to new users with over an 80% accuracy on testing data.

PUBLICATIONS

THE UTILITY OF PSA VELOCITY IN PREDICTION OF PROSTATE CANCER. Prostate Journal
DEFINITION OF BIOCHEMICAL SUCCESS FOLLOWING WHOLE GLAND PROSTATE CRYOABLATION. Journal of Urology