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YASH PATEL

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EDUCATION

Princeton University – Bachelor of Arts in Mathematics, Sep 2014 - June 2018
Certificates in Applications of Computing (1), Statistics and Machine Learning (2)
Relevant Coursework: Theoretical ML | Algorithms and Data Structures | Computer Vision | Info Security | Neural Networks | Discrete Math | Probability/Stochastic Systems | Analysis of Big Data | Computer Graphics | Programming Languages
Overall GPA - 3.642/4.0 **Departmental GPA** - 3.727/4.0

WORK EXPERIENCE

Amazon.com, Seattle, WA Summer 2017
Software Engineer
• Developed high-throughput debugging service targeted at KPO (Amazon team) developers. Deployed globally to *all* Amazon Robotics enabled fulfilment centers, interacting with five major production-level code bases deployed on each site.
• Implemented in Java (3000 SLOC), with Spring MVC, multithreading/futures, Mockito, and AWS (EC2, S3, SNS/SQS, and DDB)

Spirent Communications, Holmdel, NJ Summer 2016
Data Scientist/Software Developer
• Developed data profiling web application, which efficiently produces interactive graphics and statistics for large data streams (parsing one million rows in one minute), while opening SQL query features. Implemented using Python (2000 SLOC), with Flask, SQLite, and Plotly. Improved efficiency in systems engineer pipeline by detecting anomalies early and circumventing constraints in Excel.
• Developed licensing tool to find and extract ~8000 license files from packaged product, using web scraping in Python (BeautifulSoup). Automated Cisco license form filling, saving hundreds of hours of manual intervention to find data and fill forms

Mailman School of Public Health, Columbia University, New York Summer 2015
Mathematical modeller and programmer under Professor Abdulrahmen El-Sayed
• Developed agent-based models for modelling sexual minority behavior in populations and self-efficacy resulting from enrollment in exercise coach programs. Publications of studies currently in the works.
• Wrote simulations in Python (2000 SLOC) using Matplotlib, Numpy, and NetworkX

SELECTED PROJECTS/PAPERS

Synalyze (HackPrinceton Spring 2017): https://synalyze.me/ Spring 2017
• Business meeting-centric application for analyzing pain points and how to improve upon them. Produces analytics on voice audio recordings of business meetings using Watson NLP API, implemented in Python/Ruby server-side and HTML/CSS/JS server-side.
• Best Use of Machine Learning: HackPrinceton 2017

NeuroPath (Great Moments in Computing: COS 583): http://fast-caverns-95520.herokuapp.com/ Spring 2017
• Implemented two neural branch predictors (single neuron and path-incorporating network) to simulate in software those implemented in the recent AMD Ryzen chips and compare to performance with standard BPs, such as Tournament and LTAGE.
• Interfaces directly with the gem5 systems architecture emulator. Deployed with C/C++ and prototyped in Python. Results available at the link provided

DeepGIF (Computer Vision: COS 432): https://github.com/yashpatel5400/DeepGIF Fall 2016
• Implemented neural style transfer algorithms to GIFs, with the additional capability of applying different styles to different regions of the image. Employed HED neural network for segmentation and fast neural style for transformation.
• Developed fully in Python, with heavy use of Keras (Tensorflow backend) and Caffe

Deanonymizing Bitcoin Transactions: An Investigative Study on Large-Scale Graph Clustering Fall - Spring 2018
Senior Thesis 2018 (under *Professor Matt Weinberg*): https://tinyurl.com/y7n4qlyp
• Investigated the prospects of partially deanonymizing Bitcoin transactions, by constructing a "heuristics graph" atop the standard transactions graph and performing large-scale graph clustering (roughly 200 million vertices, 10 billion edges)
• Was a theoretical study investigated by implementing and comparing accuracy and speed metrics of graph clustering algorithms on a sample stochastic block model

SKILLS AND INTERESTS

• Languages: Python, C/C++, Ruby, OCaml, Solidity (Ethereum), JavaScript, Java, SQLite, Git, R, Bash (basic)
• Concepts/Packages: Tensorflow, Keras, scikit-learn, OpenCV, gensim, Flask, Django, Node.js, Spring MVC, Unix, Amazon AWS, DigitalOcean, Heroku, Docker, Truffle, web3.js