Amar Shah – Software Engineer

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Technical Skills

Python | Java | Golang | PostgreSQL | PyTorch | PHP | Julia | React | Git

Education

Cornell University: Bachelor's in Computer Science, Minor in Business **August 2015 – May 2019**
Honors: Dean's List - Spring 2018, Meinig Family Cornell Honors Scholar

Coursework: Advanced Topic Modeling, Computer Vision, Entrepreneurial Strategy, Object Oriented Programming Data Structures, Natural Language Processing, Machine Learning, Operating Systems, Networks, Algorithms, Computational Genetics

Work Experiences

IBM Cloud **August 2019-Present**
Fullstack Engineer – Load Balancer as a Service San Jose, California
• Led a transition to a new production monitoring service with the system backend in Golang, daily billing cron job in PHP, seamless live migration for 6 regions across the globe, and 5+ microservices
• Created database migration utilities in Python, reformatted data structures in Golang, and ensured no customer data was lost with PostgreSQL to facilitate a database migration shift from IBM DB2 to PostgreSQL
• Automated and optimized an image upgrade pipeline in Python to reduce maintenance windows from 5 days to 1 day
• Developed customer features such as HTTP traffic redirection and header logging at the layer 4 and layer 7 networking levels in PHP
• Contributed to design changes on the IBM Cloud Load Balancer consumer portal with React and Node JS
• Utilized the Agile methodology with a team of 8 engineers on 2 week sprints to close 30 issues per sprint using Github and Zenhub

Investment Technology Group (Virtu Financial) **June 2018-August 2018**
Summer Technology Analyst New York, NY
• Built a production data pipeline in Python to parse, clean, and analyze client orders involving over 100 million rows of data in SQL
• Conducted trend analysis in Python to identify inefficiencies and generate more effective order fulfillment strategies
• Visualized patterns and outliers with CGI-Pearl on collected data in a client-friendly web-portal hosted on HTML Apache Server

MIT Lincoln Laboratory **June 2017-August 2017**
Summer Research Intern under Edward Kao Lexington, MA
• Analyzed the structure and properties of large graphs (10,000,000+ edges), created k-way partition based on inter-partition properties
• Developed and coded a Partitioning Algorithm in Julia relying on the Stochastic Block model
• Increased graph processing framework capabilities by a space factor of 10^2 edges and speed complexity of 10^2 seconds using Julia

Leadership & Projects

Crowds: Covid Restaurant Capacity (Application) **April 2020-Present**
IBM Call for Code SF Bay Area, CA
• Rapidly created application displaying COVID compliant capacities to connect users with local restaurants and avoid large crowds
• We designed a frontend in React-Native and utilized REST APIs to connect with the backend in NodeJS and the IBM Cloudant DB

Machine Learning Teaching Assistant (CS 4780) **August 2018-December 2018**
Teaching Assistant to Dr. Kilian Weinberger Ithaca, NY
• Held office hours to review student questions across topics like Neural Networks, SVMs, Random Forests
• Helped write and grade homework assignments, group projects and exams in Jupyter Notebooks

AI Nutrition Advisor (Desktop App) **September 2018–December 2018**
Senior Design Project Ithaca, NY
• Trained Convolutional Neural Network on 10 classes of 100 images to classify foods and their nutritional info with Python and Keras
• Built Python desktop app to ingest images and output caloric and nutritional breakdowns

YaleHack Hackathon **December 2017**
G-Pass: Revolutionizing Grocery Sharing New Haven, CT
• Placed in Top 10 for Intuit Education Prize
• Built digital marketplace with Node.js that facilitates the exchange of excess and unused groceries with a POC backend in MongoDb

Personal Interests

Cooking ethnic foods | Landscape photography | Traditional South Asian dance (Raas-Garba)