Nikhil Bhat

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Work Experience

Amazon August 2021 - Present

Software Engineer — *Java, Python, Kotlin, AWS (S3, Lambda, DynamoDB, SQS)*

- Re-architected a legacy classification service to support multiple clients, increasing throughput to 10M requests/day
- Migrated critical services from AWS AppConfig to AWS Parameter Store, reducing infrastructure costs by 30%
- Designed a scalable event-driven compliance service to process customer data deletion requests (50k requests/day)
- Developed a Python tool to root cause and resolve common operational issues, reducing on-call load by 5 hrs/week
- Drove org-wide adoption of AWS best practices, reducing incoming security vulnerability tickets by 100% (10/month → 0)
- Mentored an intern project to regionalize an event publisher used in 10+ microservices, leading to a successful return offer
- Led a team of 4 engineers across 3 timezones to onboard new use cases, processing an additional 130k orders/month

Amazon June 2020 - August 2020

Software Engineering Intern — *Java, AWS (S3, Lambda, DynamoDB)*

- Saved over $100k a week by expanding a native AWS service used to identify products being sold at a loss
- Built an automated service leveraging AWS Lambdas to alert business owners on recently suspended products

Intel January 2020 - June 2020

Software Engineering Intern — *Python, OpenCV, C++*

- Developed computer vision and data processing algorithms for 3D Athlete Tracking at the Tokyo 2021 Olympic Games
- Implemented a modified IK algorithm for athlete pose estimation, reducing the runner velocity calculation error by 70%
- Designed an end-to-end static camera calibration application using OpenCV resulting in under 5cm of reprojection error
- Decreased runtime of the biomechanical analysis module by 20x through algorithm and data processing optimizations
- Deployed a modular unit-testing framework for verifying calibration accuracy and integrated it into the CI/CD pipeline

GreenSight January 2019 - July 2019

Software Engineering Co-Op — *Python, OpenCV, ROS, C++*

- Developed a vision-based autonomous drone navigation system which won $30k in the Verizon 5G Robotics Challenge
- Designed a self-correcting algorithm for heliostat motion, by using OpenCV and a PID controller to account for GPS drift
- Implemented LIDAR-based SLAM navigation algorithms for a ground robot using ROS and Google Cartographer

Barnes Aerospace May 2018 - August 2018

Data Analyst Intern — *Python, NumPy, Pandas, VBA*

- Reduced turbine inspection times by 30% by developing a Python program to implement statistical process control
- Deployed an integral error reporting software using PyQt5 and MySQL for supervisors to monitor the manufacturing plant
- Built a VBA application to schedule manufacturing operations, accounting for flexible lead times and delivery delays
- Implemented a Python algorithm to categorize part defects based on problem description fields

Education

Northeastern University August 2017 - May 2021

B.S. in Computer Engineering & Computer Science — GPA: 4.0/4.0

Activities: TA for Discrete Structures, Vice President of Northeastern IEEE, Teacher at MIT Splash

Coursework: Computer Vision, Practical Neural Networks, Robotic Science & Systems, Engineering Product Design

Personal Projects

E-Kondo *React, Python, Google Cloud Vision, EBay API*

React web app that uses Google Cloud Vision and the EBay API to automatically sell products using just a single image

Don't Touch My OJ *Python, OpenCV, Raspberry Pi, Twillio*

Raspberry Pi-based computer vision system that sends a text alert when other people take your food from the fridge

Sesquipedalian *Python, OpenCV*

Words with Friends solver that reads the current game board using OCR and produces the highest scoring move

Fancily *Swift, CoreML*

Machine-learning iOS app to recommend daily outfits from a user's closet based on individual stylistic preferences