Rajat Mehndiratta

GITHUB rajatscode **LINKEDIN** /in/rajatsprofile **WEBSITE** rajats.site **E-MAIL** r@jats.email **LATEST RESUME** rajatsresu.me

Skills

Languages: Python, Java, JavaScript, MATLAB, SystemVerilog
Libraries: Flask, Guava, React Native
Tools: bash, vim, git, hg, CI/CD, Agile workflow, LaTeX

Experience

Software Engineer June 2019 - present
Fleet Transformation (Unified Fulfillment Optimization), Google

Enhancing Java backend for mixed-integer programming solver web microservice to optimally plan Google infrastructure deployments (e.g., which machines to buy/upgrade to meet compute demand).
+ Implemented and launched recurring automated jobs to detect and re-plan no-longer-viable solutions, making planning more touchless, increasing planning granularity and reducing variance in lead time.
+ Designed and delivered look-ahead API to plan with counterfactuals, increasing on-time fulfillment and reducing manual intervention rate to mitigate costs of planning changes and execution problems.
+ Modernizing team infrastructure to increase release cadence and reduce on-call burden.

Software Development Engineer Intern May - August 2018
Topline Forecasting (Supply Chain Optimization Technologies), Amazon.com

Investigated and implemented serverless solutions to reduce forecasting compute costs by 10-100x.
+ Identified engineers' and economists' large-scale workflow requirements to develop definition schema.
+ Implemented Python-based workflow orchestrator to operate forecasting workflow on multiple considered architectures using AWS Lambda, Batch, Fargate, Step Functions, SQS, S3, DynamoDB, and Aurora.
+ Demonstrated several working architectures and outlined 3 approaches for team to consider, generating 150+ pages of documentation.

Software Development Engineer Intern May - August 2017
Robotics (Worldwide Operations), Amazon.com

Explored and validated deep reinforcement learning approaches for visual navigation in a sidewalk delivery robot (Amazon Scout).
+ Drove data-gathering effort focusing on generating training data from virtual 3D environments.
+ Built simulation environments for Nav A3C agent in 2 and 3 dimensions.
+ Contributed to TensorFlow/sonnet-based implementation and devised performance metrics.

Education

Carnegie Mellon University May 2019
Bachelor of Science, Electrical and Computer Engineering

Coursework: Advanced Mobile Robot Development (16-865), Advanced Digital Signal Processing (18-792), Introduction to Machine Learning (10-601), Rapid Protoyping of Computer Systems (18-540), Introduction to Computer Architecture (18-447), Natural Language Processing (11-411), Neural Technology: Sensing & Stimulation (18-412), Logic Design and Verification (18-341), Entrepreneurship for Engineers (70-420), Business Law (70-364), Organizational Behavior (70-311)

Involvements: hackathons (competitor, mentor, organizer, and sponsor), Mock Trial (Captain), SDC Buggy (carbon-fiber gravity racing; Mechanic), End The Rain (umbrella dispensers; Co-Founder, Tech Lead)

Projects

Nemosi (18-540 Class Capstone) January - May 2019
Chief Architect, Wireless Networking Lead

Drove architecture and wireless networking design for prototype system to help Alzheimer's patients.

SCOT-T Lunar Rover (16-865 / CMU+Astrobotic Lunar X Prize Project) January - May 2016
Engineer on Communications, Hardware, and UI Teams

Worked on development and testing of UDP-based communications for novel 4.5kg Cube Rover standard.

FifthSense (PennApps Fall 2015 Grand Prize) September 6-8, 2015
Hackathon Competitor

Built full-duplex handheld device to allow blind users to access smartphones in mobile contexts.