Aneek Mukherjee

aneek@aneekm.com | (732) 983-1949 | aneekm.com

Work Experience

Amazon Robotics **Aug. 2020 – Present**

Software Development Engineer II | Mar, 2022 – Present *Seattle, WA*

- Spearheaded technical strategy for a 10-developer team, establishing scalable architectural patterns and development best practices to accelerate team velocity. Owned critical decisions around software system interfaces & infrastructure, operational excellence & CI/CD, and technical approach.
- Pioneered new embedded firmware capabilities for next-generation autonomous mobile sortation robots, training 4 engineers in C++/Rust while developing robust applications with FreeRTOS, FOC motor control, sensor fusion, wireless communication (BLE, ultra wide band), and BSPs for custom hardware.
- Implemented comprehensive embedded C++ tooling from the ground up that aligned with Amazon-standard patterns, reducing onboarding time and enabling new engineers to effectively contribute to complex firmware projects within 2 weeks with out-of-the-box cross-compilation, unit testing, code organization, and linting.
- Designed and maintained highly scalable, fault-tolerant microservice-based cloud systems orchestrating 4,000+ robots with 99.95% uptime, resulting in 22% YoY operational cost reduction and consistently positive feedback from operations teams.
- Architected and led delivery of 4 edge-deployed robotic products that automate millions of operations daily key fulfillment process in 100+ warehouses (palletization, sortation, mobility), leveraging AWS Outposts & IoT Greengrass to achieve $50M+ annual savings in total.
- Mentored 6 junior engineers and interns through regular 1:1s, code reviews, and technical workshops, fostering team development that resulted in above-standard retention rates and guided 2 engineers to successful mid-level promotions within 2 years.

Software Development Engineer I | Aug, 2020 – Mar, 2022

- Designed configuration and provisioning tools and common fleet management features - work orchestration, monitoring, and alarming - to streamline deployment for 3 autonomous guided vehicle projects.
- Enabled 200+ machine deployments across the fulfillment network with $13M annualized labor savings and excellent operational visibility and the lowest operational support overhead across the team's products.

Amazon Robotics **May 2019 – Aug. 2019**

Software Development Engineer Intern *Seattle, WA*

- Engineered a scalable, serverless backend and React-based UI for real-time tracking of robotic operations in the fulfillment network, processing 100+ transactions per second using AWS Lambda, Elasticsearch, and Kinesis.
- Enabled end-to-end work sequence reconstruction and full-text search capabilities for inventory sortation machines, allowing for efficient traceability and troubleshooting, as a proof-of-concept for the organization.

LinkedIn **May 2018 – Aug. 2018**

Intelligent Automation Intern *San Francisco, CA*

- Automated an end-of-year financial data collection and processing workflow for LinkedIn's finance organization, saving 3 weeks of manual effort annually.

Education

Carnegie Mellon University **May 2020**

Bachelor of Science, Electrical and Computer Engineering *Pittsburgh, PA*

- Teaching Assistant for 15-441/641: Computer Networks, Men's Water Polo Club President

Phillips Exeter Academy **May 2016**

High School *Exeter, NH*

Skills

Languages: C/C++20, Rust, Java, Javascript/Typescript, Python, C#
Embedded: Custom BSP, FreeRTOS, Bare-metal, SPI, I2C, CAN, ARM, STM32, PCB Bring-up
Cloud: AWS (Lambda, DynamoDB, IoT, CloudWatch, SQS, ECS, CDK), Microservice Architecture, React, Svelte