Aneek Mukherjee

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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 reusable architectural patterns and best practices and influenced their adoption in 5 projects over 3 years. Drove critical technology decisions, including AWS service selection, system architecture, operational requirements, and deployment guardrails for full CI/CD.
- Pioneered and implemented new embedded firmware capabilities within the Mechatronics organization, trained 4 engineers in C++/Rust, and defined and executed the technical strategy for next-generation autonomous mobile sortation robots. Drove alignment between hardware, software, and product teams. Developed a robust C++ application on custom hardware with FreeRTOS, advanced FOC-based motor control, sensor fusion, and wireless communication, enabling precise motion planning for fleets of inventory sortation robots. Defined and implemented embedded C++ tooling from the ground up, enabling new engineers to utilize Amazon-standard patterns and ramp up within 2 weeks.
- Designed and deployed highly scalable, fault-tolerant microservice-based cloud systems for real-time fleet management of 4,000+ robots, achieving 99.95% uptime. Reduced operational costs by 22% YoY and consistently received positive feedback from operations teams.
- Architected and led the delivery of 4 edge-deployed robotic systems, processing over 1M operations daily across 100+ warehouse facilities. Leveraged AWS, including Outposts & IoT Greengrass on the edge, to achieve $50M+ annual savings through automated palletization, sortation, and mobility solutions.
- Mentored 6 junior engineers and interns, conducting regular code reviews and technical workshops, contributing to above-standard team retention. Guided 2 engineers to mid-level promotions within 2 years and secured an internship return offer.

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

- Designed and implemented configuration & provisioning tools and common fleet management features, including fleet orchestration, monitoring, and alarming, for 3 distinct autonomous guided vehicle solutions, enabling 200+ machine deployments across multiple fulfillment centers with excellent operational visibility and $13M annualized labor savings via automating tote and package mobility.

Amazon Robotics **May 2019 – Aug. 2019**
Software Development Engineer Intern *Seattle, WA*

- Engineered a scalable, distributed backend and React-based web UI for real-time tracking of robotic operations in Amazon Fulfillment Centers. System processed 100+ transactions per second using AWS Lambda, Elasticsearch, and Kinesis. The front end enabled comprehensive work sequence reconstruction and full-text search capabilities, serving as a proof-of-concept for the Robotic Applications 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.

PROJECTS

Personal Project #1 *Mon Year*

- Project Details #1

EDUCATION

Carnegie Mellon University *May 2020*
Bachelor of Science, Electrical and Computer Engineering *Pittsburgh, PA*

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

Phillips Exeter Academy *Exeter, NH*

SKILLS & INTERESTS

- **Technologies:** C/C++17, Rust, CMake, ARM, STM32, Java, AWS & Serverless, Python, TypeScript, HTML3/CSS5, React, C#
- **Interests**: Classic cars (particularly Corvettes); budding food critic; board games; seeing movies in theatres