

Baljinder S. Hothi

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EDUCATION

The City College Of New York, CUNY

New York, NY

Bachelor of Science in Computer Science, Minors in Mathematics, Business and Administration

May 2026

Courses Taken:

Data Structures, Algorithms, Software Engineering, Website Design, Databases, AI, Machine Learning, Linear Algebra

EXPERIENCE

AWS - Amazon

June 2025 - August 2025

Incoming Software Development Engineering Intern

Seattle, WA

- Incoming SDE intern on the **AWS Lambda** team, focusing primarily on applied **Machine Learning** and **Infrastructure**.

Lohman Laboratory

January 2025 - Present

Software Engineering Intern

- Built a full-stack application with **Next.js** and **MySQL** for researchers to log butterfly data, using **CI/CD** for automated testing and deployment.
- Expanded an international user base to **1,000+** and managed data for **6,000+** specimens, contributing to the world's largest butterfly dataset, which is set to be published alongside a research paper.
- Developed a **Python**-based **MySQL** monitoring tool to track query times, table growth, and index efficiency, reducing database latency through slow-query optimization.

Interdisciplinary Data Science Lab

February 2024 - May 2024

Machine Learning Intern

- Developed a robust **Python** model using **K-means** and **LMCLUS** algorithms, achieving **87%** accuracy in heart disease categorization, resulting in the co-authoring of a **NeurIPS** paper submission.
- Optimized numerical methods in **Julia** and **C++**, reducing processing time by **25%** and enhancing computational efficiency.

ICCAE: Cyber Threat Intelligence Integration Center

August 2023 - June 2024

Software Engineering Research Intern

- Built the back end of a full-stack app using **Python Flask** and **Next.js**, supporting **150+** users with scalable endpoints and auth logic; developed an **NLP model** to process **10,000+** SQL entries at **80%** accuracy.
- Designed and implemented a prototype model for a **Boston Dynamics robot** to provide navigation assistance to elderly and disabled individuals, and leveraged **real time object and speech recognition** to deliver explanations of artwork and history in museums.

PROJECTS

Free-Hand: Autonomous Embedded Systems | C++, Raspberry Pi Zero 2 W, LewanSoul

- Engineered a gesture controlled **self driving RC car** using **embedded C++** for motor interfacing, **computer vision** hand sign controls, and **object detection**; developed **multi-threaded sensor fusion** and **decision-tree algorithms** integrated with **SLAM**, **ROS2**, and **neural networks** for autonomous navigation.

Datadog Log Visibility Issue Debugging | Python, Docker, serverless-init

- Investigating an **open source** issue in Datadog where specific JSON fields (e.g., empty lists) fail to appear in the Log UI, potentially due to filtering or serialization inconsistencies.

MTA Inequality Analysis | Python, JavaScript, Docker, IpyLeaflet, GeoPandas, Pandas, Numpy

- Extended the open-source **Python MTA Utilities API** by adding endpoints to process geo-location and foot traffic data; applied these features as back-end lead to map riders to stations and compare real-time delays with MTA schedules, uncovering a correlation between train delays and median incomes across NYC zip codes.

TECHNICAL SKILLS

Languages: Python, JavaScript, Go, OCaml, SQL, C++, TypeScript, Java

Libraries and Tools: PyTorch, scikit-learn, Spark, Snowflake, Swift, Git, Node.js, REST APIs, GraphQL, Docker

EXTRACURRICULARS

HackNYU '25: 2nd Place

Papers Submitted 2x

NYU AI School: June 2024

Google Labs: Campus Organizer

A.C.M. at CCNY: Present

Google SWE Mentee Present