

HASHEM ALOMAR

Ellicott City, MD

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Education

University of Maryland, College Park

May 2027

Bachelor of Science in Computer Science and Mathematics

GPA: 3.8

Technical Skills

Languages: Python, Java, C, JavaScript/TypeScript, SQL(PostgreSQL)

Frameworks & Dev Tools: Next.js, Git, Express/Node.js, React/React-Native, Firebase, AWS(CloudFront, RDS, Lambda), Tailwind, SQLite, Unix, Supabase

Libraries: PyTorch, NumPy, Pandas, TensorFlow, Scikit Learn, PennyLane

Experience

Software Engineering Intern

May 2025 – August 2025

4A Consulting, LLC

Ellicott City, MD

- Developed a recruiter dashboard using **React, Next.js, & AWS RDS**, automating applicant tracking and interview scheduling for 1,000+ applications, **reducing administrative overhead by 20%** and improving hiring efficiency.
- Implemented an AI interview platform with an admin dashboard powered by **Node.js** to manage questions in real time, using **Amazon SES** for online assessment automatic email generation, **accelerating hiring process by ~6 days**.
- Created an AI-powered company-wide chatbot using **Cloudflare(4o-mini) & Pinecone** integrated with **LlamaIndex** to automate employee & customer support, **saving 100+ hours** of manual work monthly.

Undergraduate Research Assistant - Quantum Machine Learning

January 2025 – June 2025

University of Maryland

College Park, MD

- Increased daily back-test throughput by 40%** by engineering a multi-asset QLSTM pipeline in **PyTorch + PennyLane**, scaling a 2024 single-stock model to predict 10+ equities concurrently, **saving ~\$100 per iteration**.
- Achieved **7% higher model accuracy** by testing QLSTM models on **IonQ** hardware across 3–8 qubits, benchmarking real-hardware performance vs. noisy simulators to validate quantum advantage under practical constraints.
- Reduced normalized RMSE (error) by up to 12%** on 4-qubit configurations by optimizing QLSTM circuit depth and topology, leveraging **IonQ API** demonstrating superior performance to classical LSTM across 4–12 qubits.

Software Engineering Intern

May 2024 – August 2024

Mildenberg Boender & Assoc.

Ellicott City, MD

- Designed a project management intranet platform with **React/Next.js**, **cutting project timelines by 5%**.
- Reduced document retrieval time by 25%** by integrating a search engine into intranet platform using **Fuse.js** fuzzy search library that enables quick access to 5,000+ crucial civil engineering documents.
- Increased average session duration by 10%** by redesigning the company site with **Next.js (SSR), React, and Tailwind**, boosting interactivity with modern UI components and responsive media handling.

Projects

Crossie — TypeScript, SQL, React, Supabase

- Engineered an interactive annotation Chrome Extension with **300+ installs** and **5,000+ annotations**, enabling real-time text highlighting and collaborative commenting across any website.
- Engineered full-stack authentication system using **OAuth2, Supabase**, and **Next.js** companion site, implementing **DOM text selection** with W3C-style selectors and cross-tab state synchronization for **1,000+ monthly visits**.

Dr. Terp — React, Typescript, Python, BeautifulSoup

- Built a **full-stack web app** with **2,000+ visits** to help UMD students make data-driven professor selection.
- Implemented a **Python web scraper** using **BeautifulSoup** to parse 24,000+ UMD course records bimonthly.

Craving Hour Halal Foodtruck Website — React(Native), TypeScript, AWS(CF, RDS, Lambda)

- Developed a scalable full-stack website using React, Typescript and Tailwind, deployed via Docker on **AWS Cloudfront**, serving **200+ customers** daily.
- Architected admin portal for employees using **React Native, AWS Lambda + S3, PostgreSQL**, enabling employees to make live changes to client-facing website, **reducing manual workload by 10+ hours** monthly.

Leadership

Startup Shell — Fellow

January 2025 – Present

- Selected as fellow for student run startup incubator with over \$2 billion in venture value.

ProjectLIFT — Founder

April 2025 – Present

- Founded ProjectLIFT, a student-run club delivering technological solutions to 5+ local small businesses.

B!g Think AI — Vice President

August 2024 – Present

- Lead AI/ML workshops with 30+ students on concepts such as Linear Optimization, Gradient Descent, Random Forest.