Ashmit Deb

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EDUCATION

UNIVERSITY OF MICHIGAN **Ann Arbor, MI**
Bachelor of Science in Computer Science + Minor in Entrepreneurship Aug. 2023 – May 2027

Cumulative GPA: 3.4/4.0

Extracurriculars: Michigan Financial and Math Society (MFAMS) & MHackers

EXPERIENCE

SIGRAY **Benicia, CA**
Software Engineering Intern May 2025 – Aug. 2025

- Enhanced automation testing and feature development in Python and .NET 8 for Sigray's AttoMap micro-XRF software creating BDD scenarios, coding spectral-analysis modules, and executing Selenium/NUnit test suites using Azure DevOps and Jenkins across APIs, CI/CD pipelines, and GUI workflows.
- Integrated ML-based spectral decomposition & ROI clustering by implementing k-means notebooks in Jupyter thereby embedding automated mineral phase segmentation directly into the analysis pipeline.
- Implemented Node.js/Express.js microservice that streams current AttoMap scanned data to a Vue.js dashboard and refined WPF/MVVM async bindings, cutting preview latency by 30% via telemetry-driven tuning.

BLUE CROSS BLUE SHIELD OF MICHIGAN **Southfield, MI**
Software Engineering Intern May 2024 – Aug. 2024

- Conducted source-to-target mapping to retrieve data transformation and migration across systems while utilizing SQL and ETL processes to maintain data consistency and optimize integration workflows.
- Used Power Automate along with Sharepoint for IT intake forms while also storing and formatting confidential patient inquiries for data integrity.
- Utilized TriZetto Facets to log and track inquiry tickets with Cognizant, validating end-to-end (E2E) and system-integration (SIT) workflows in non-production environments to ensure accurate claim diagnostics.

UNIVERSITY OF MICHIGAN - EECS DEPARTMENT **Ann Arbor, MI**
Electrical Engineering Intern June 2023 – Aug. 2023

- Collaborated with Professor Amir Mortazawi's postgraduate research team at the University of Michigan developing a wireless power transmission system while utilizing amplitude modulation frequency.
- Operated different analog circuit simulators including LTspice while working hands on with RLC circuits and converting 1 MHz radio waves into an AC voltage source.

PROJECTS

Reddit API Stock Analyzer Jan. 2025 – Feb. 2025

- Developed a multithreaded C++ app that pulls finance-subreddit posts (r/WSB, r/stocks, r/investing) via Reddit API (cURL and JsonCpp), scores sentiment, and outputs results to a live CLI and auto-generated HTML report.
- Applied modern C++ practices (RAII, STL) and thread-pool concurrency with mutex-guarded queues to accelerate data ingestion and scoring, producing near-real-time, actionable stock-sentiment insights.

Real-Time Earthquake Monitor Sep. 2024 – Nov. 2024

- Built a Node.js/Express.js service using USGS GeoJSON and streaming live updates via Socket.io and storing data on PostgreSQL while applying Flask microservice for real-time statistical analysis through RESTful API.
- Used HTML, CSS, JavaScript, and React on frontend and deployed PostgreSQL, Node API, and Flask analytics with Docker Compose pushing images to AWS ECR and scaling on ECS for continuous seismic tracking.

SKILLS

Technical Languages: C#, C++, C, Python, Java, SQL, JavaScript/TypeScript, HTML5/CSS3, MATLAB
Frameworks/Libraries: Node.js, Vue.js, React, .NET, Flask, Selenium, Jupyter, Reqnroll (BDD), WPF/MVVM
Cloud/Tools: Azure (ACR, AKS), AWS (ECR, S3, ECS), Git, Docker, Jenkins, JIRA, Power BI, Excel
Practices: Object Oriented Design, RESTful API design, Agile Scrum, CI/CD, Test-Driven Development