

# Ashmit Deb

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## EDUCATION

### University of Michigan

Bachelor of Science in Computer Science + Minor in Entrepreneurship

Aug. 2023 – May 2027

Ann Arbor, MI

Cumulative GPA: 3.4/4.0

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

## EXPERIENCE

### Software Engineer Intern

May 2025 – Aug. 2025

Sigray

Benicia, CA

- Enhanced feature development in Python/.NET spectral-analysis modules and NUnit tests for Sigray's AttoMap micro-XRF boosting feature delivery and CI/CD validation on Azure (AKS) via Jenkins (HTTP API + GUI).
- Integrated ML-based spectral decomposition & ROI clustering by implementing k-means notebooks in Jupyter thereby embedding fully automated mineral-phase segmentation directly into the analysis pipeline.
- Built a REST Node.js microservice on AWS (EC2) to stream real-time scanned AttoMap data to a Vue.js dashboard and trimmed WPF/MVVM bindings cutting preview latency 30% via telemetry-driven tuning.

### Software Engineer Intern

May 2024 – Aug. 2024

Blue Cross Blue Shield of Michigan

Detroit, MI

- Designed a REST-based claims processing system with Java and Spring Boot integrating PostgreSQL-backed validation logic to power an Angular frontend reducing processing times by 40% through scalable workflows.
- Designed and tuned MySQL schemas in AWS (RDS) added unit-tested queries and SharePoint-based validation dashboards boosting data integrity and automated schema migrations for repeatable zero downtime releases.
- Expanded BCBSM's IOS/Android membership app by improving the eligibility/benefits-lookup feature and 15+ bug fixes in two Agile sprints wiring the React Native UI through Firebase to a Java Spring Boot backend.

### Software Development Intern

June 2023 – Aug. 2023

Spears To Success

Remote

- Developed custom full-stack web apps for local businesses and restaurants, implementing responsive UIs using React on the frontend and Flask APIs for backend logic tailored to restaurant and retail use cases.
- Designed Firestore-backed databases and implemented role-based authentication with Firebase Auth to support secure, scalable client portals, admin dashboards, along with real-time data sync and multi-user access control.
- Converted Figma feedback into modular features to streamline client workflows across custom work platforms.

## 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

**Frameworks/Libraries:** Node.js, Vue.js, React, .NET, Flask, Selenium, Jupyter, Reqnroll (BDD), WPF/MVVM

**Cloud/Tools:** Azure (ACR, AKS), AWS (RDS, EC2, ECS), Git, Docker, Jenkins, JIRA, Power BI, Excel

**Practices:** Object Oriented Design, RESTful API design, Agile Scrum, CI/CD, Test-Driven Development