MARKOSE TSEGAYE

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Education

George Mason University **Dec 2026**
Bachelor of Science in Computer Science (Accelerated M.S. Track)- 3.64 GPA *Fairfax, VA*
Relevant Coursework: Software Engineering, Data Structures, Analysis of Algorithms, Linear Algebra, Database Systems, Artificial Intelligence

Northern Virginia Community College **Aug 2022 - May 2024**
Associate of Science in Computer Science *Springfield, VA*

Projects

AlgoMinds (*Algominds.net*) | *Typescript, Express.js, Next.js, Redis, Docker* | Fullstack Engineer **March 2025 – Aug 2025**
- Developed a coding platform for solving problems in real time with a **Next.js** frontend and **Express, Prisma, PostgreSQL** backend; containerized with **Docker** and deployed across **Vercel, Fly.io, Azure, and Supabase**, enabling cross-platform scalability and rapid feature deployment.
- Implemented secure auth **JWT** with rate limiting and validation via **Passport.js**, protecting against high-traffic abuse and reducing auth-related errors by **90%**.
- Created a custom **code judging pipeline** using **Judge0** , **Redis**, and **Websockets**, cutting code execution latency by **40%**.

Experience

Software Engineer - The Dumpster Masters **May 2025 - July 2025**
The Dumpster Masters - Local Waste Management Client *Fairfax, VA*
- Developed a **React Native** mobile MVP with an **Express.js** backend to handle job dispatch, driver workflows, and in-app photo uploads for **3 drivers**.
- Built interactive **Mapbox** map screens showing real-time pickup/drop-off locations, fully automating route planning and improving driver task completion speed by **60%**.
- Designed and deployed a role-based **REST API** (auth, jobs, billing) with **20+ endpoints** using **Express.js**, **PostgreSQL**, and **Prisma ORM**.
- Delivered mobile **MVP** for waste management workflows

Backend Engineer – Forkcast **July 2025 - Sept 2025**
Forkcast (Forkcast.fit) - Restaurant Demand Forecasting *Fairfax, VA*
- Built a machine learning–powered platform with a team of 5 that predicts restaurant inventory needs using **POS menu item data**, developed with **FastAPI**, **XGBoost**, **PostgreSQL**, and a **React/TypeScript** frontend.
- Engineered an **idempotent, concurrent job pipeline** with **BullMQ + Redis** to reliably transfer and process multi-GB POS datasets into Supabase storage, ensuring **zero duplication** and consistent state under retries/failures.
- **Containerized pipeline services with Docker**, enabling reproducible local dev + cloud deployment, and scaled workers horizontally to process **10+ GB/hour** without data loss.
- Integrated interactive dashboards with **real-time visualizations**, enabling restaurant managers to monitor daily, weekly, and monthly demand trends for proactive ordering.

Leadership

Events Chair - ColorStack GMU **Oct 2025 - Present**
George Mason University *Fairfax, VA*
- Elected to lead event strategy and programming for a student org supporting **underrepresented CS students** at George Mason University.
- Planning and coordinating technical workshops, networking mixers, and professional development events in collaboration with peers and industry partners.

Technical Skills

Languages: Java, Python, C#, JavaScript, TypeScript, SQL

Frameworks & Libraries: React.js, Node.js, Express.js, FastAPI, Prisma, BullMQ, Redis

Cloud Platforms & DevOps: Azure, AWS, Docker, Fly.io

Developer Tools & Others: Git, GitHub, Sentry, Winston, Jest, Supertest