

Ashton Rich Roxas

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EDUCATION

University of Massachusetts Lowell

Bachelor of Science in Computer Science

May 2026

GPA: 3.3/4.0

Relevant Coursework: Computer Security, Mobile App Programming, GUI Programming, Analysis of Algorithms, Operating Systems, Cloud Computing, Computer Architecture

TECHNICAL SKILLS

Languages: Java, Python, C++, TypeScript, SQL, Kotlin, HTML/CSS, C

Cloud & DevOps: Firebase, AWS (Lambda, S3, DynamoDB, CDK), Azure, Docker, CI/CD, Git

Frameworks & Libraries: React.js, Next.js, Vite, Node.js, Tailwind CSS, SFML, JUnit

Concepts: Microservices, REST/GraphQL APIs, Agile, Data Structures, OOP

PROJECTS

GroupTab — *React, Vite, Firebase (NoSQL), CSS3*

Jan 2026 – Present

- Orchestrated a real-time synchronization engine using **Firestore listeners**, achieving sub-second state consistency across multiple concurrent clients.
- Devised a greedy debt simplification algorithm ($O(N)$ complexity) to resolve circular dependencies and minimize total transaction volume by up to 50%.
- Enforced Row-Level Security (RLS) via Firestore Rules to strictly govern access control, ensuring data privacy for authenticated users in shared groups.

AudioByte — *Python, AWS (CDK, Lambda, DynamoDB), React*

Oct 2025 – Dec 2025

- Provisioned a cloud-native music platform using **AWS CDK** (IaC) to eliminate manual configuration drift and reduce deployment time by 40%.
- Constructed a serverless GraphQL API with Python Lambda resolvers to securely handle authenticated file uploads, supporting concurrent user requests without server overhead.
- Designed a responsive frontend with global state management, reducing initial page load time and enabling seamless audio buffering for users.

HawkAdvisor — *Kotlin, Spring Boot, SQL, Azure AI, LLM Integration*

Sep 2025 – Nov 2025

- Engineered a career discovery platform for 18,000+ UML students, leveraging **LLM logic** to bridge the gap between academic course electives and specific industry career demands.
- Automated the ingestion of University course catalogs by building custom scrapers, utilizing complex **SQL** schemas to map major-specific electives to real-world professional outcomes.

Sokoban Game — *C++, SFML, Boost Test Library, OOP*

March 2024 – April 2024

- Programmed a 2D puzzle engine in **C++** and **SFML**, implementing custom collision logic and multi-object physics for crate-pushing mechanics.
- Optimized performance via tile-based rendering and **OOP** principles, inheriting from the SFML Drawable class to manage textures and rendering states.

LEADERSHIP EXPERIENCE

UML The Filipino Club — *President*

April 2024 – April 2025

- Direct a cross-functional team of 10 officers to execute large-scale cultural events, managing a semester operating budget of \$2,000+.
- Increased active membership by 25% by pivoting to data-driven social media campaigns and establishing strategic partnerships with other student orgs.
- Orchestrated logistics for outreach programs, acting as the primary liaison between the student body and university administration to secure venue resources.