

Ahmed Shousha

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EDUCATION

Virginia Tech **2023 – 2028**
B.E. in Computer Science, Geographic Information Technology Minor **Blacksburg, VA**
Relevant Coursework: Data Structures & Algorithms, Linear Algebra, Mobile Software Development (iOS),
Computer Organization I & II (C, RISC-V Assembly), Formal Languages

TECHNICAL SKILLS

Languages: Swift, C++, Python, C, C#, TypeScript, JavaScript, Java, SQL, Bash
iOS: SwiftUI, UIKit, Swift Concurrency (async/await), Combine, SwiftData, GCD, XCTest, Xcode
Spatial & Vision: ARKit, RealityKit, SceneKit, MapKit, CoreLocation, VisionKit, CoreImage, CoreVideo, CloudKit
Backend & Tools: ASP.NET Core, FastAPI, PostgreSQL, MySQL, Redis, Docker, AWS, Linux, Git, React, Tailwind

EXPERIENCE

Computer Engineering Co-op | Bendix Commercial Vehicle Systems **Aug. 2026 – Present**

- Porting a Simulink model to handwritten C++ on embedded Linux to eliminate code-generation bottlenecks and accelerate edit-test cycles.
- Extended the LiDAR tracker's pre-selection hold logic to dynamic objects, preserving track IDs when detections are reacquired after dropouts.
- Automating CAN-based regression tests with CAPL scripts that inject virtual targets to validate features including emergency lane keeping.
- Developing a local AI agent to retrieve engineer-confirmed fixes for recurring ECU flashing failures and reduce repeated bench investigations.

Software Engineering Intern | EFG Holding **Jun. 2025 – Jul. 2025**

- Engineered a stock trading REST API handling 3,500+ orders/sec with sub-55ms P99 latency using ASP.NET Core, EF Core, and MySQL, containerized with Docker on Linux
- Built a real-time order matching engine supporting market/limit orders, partial fills, price-time priority, and automated price updates on trade execution

Software Developer | Project Torch **Oct. 2025 – Present**

- Built and shipped websites for local businesses and nonprofits in a student-led organization, contributing to sites that draw over 20,000 unique monthly visitors

Data and Tech Lead | Entrepreneurship Club **Oct. 2024 – Aug. 2025**

- Rebuilt the club website in React and Tailwind, reducing page load time, with event sign-ups up 30% the following semester

Resident Assistant | Virginia Tech **Aug. 2025 – Present**

- Plan 5+ community programs per semester for 150+ residents and serve as an on-call emergency responder, de-escalating crises alongside professional staff

PROJECTS

AnchorMap | Swift, SwiftUI, ARKit, CloudKit, MapKit, GCD **Jan. 2026**

- Published an iOS app to the App Store that scans real spaces in 3D with the iPhone's LiDAR sensor and pins each scan to the map location where it was captured
- Eliminated frame-rate stutter in the real-time capture pipeline by parallelizing image processing across GCD queues and deep-copying CVPixelBuffers via memcpy in under 1ms
- Built multi-user sync on CloudKit with conflict handling and offline support

Warehouse Optimizer | Python, FastAPI, OR-Tools, LightGBM **Oct. 2026**

- Built a service that uses WMS inventory and truck appointment data to pre-stage pallets near dock doors, cutting estimated forklift travel at load-out
- Used OR-Tools CP-SAT and a LightGBM model to choose the best moves under capacity, temperature, and hazmat constraints, with a rule-based fallback if the model fails