Adam Mhal

972-674-0815 | adammhal@gmail.com | My Portfolio | LinkedIn | GitHub

EDUCATION

Boston University — Boston, MA
Bachelor's in Computer Engineering, GPA: 4.0 — *Expected Graduation: May. 2027*
- **Relevant Coursework**: Linear Algebra, Multivariable Calculus, Deep Learning, Advanced Data Structures and Algorithms

EXPERIENCE

Software Engineering Intern — New York City, NY
Boostability, June 2024 – September 2024
- Developed and maintained the backend of a productivity application using Python and AI technologies, aimed at helping college students with ADHD manage their tasks.
- Collaborated with a team of software engineers to design and implement an AI-based task breakdown and recommendation system.
- Performed testing and debugging to ensure accuracy and reliability of the task management features.

Full Stack Software Development Intern — Ashburn, VA
Verizon, June 2025 – August 2025
- Built backend services in Python for Route Scout, a tool used by engineers to trace packet flow through Verizon's core network and identify faults between nodes.
- Designed and implemented structured data pipelines to pass network metadata to the frontend using Jinja2 templating, HTML, and JavaScript.
- Refactored and optimized over 1,000 lines of legacy code to improve runtime efficiency and readability.
- Used SQL to query historical routing metadata from internal databases, enabling time-based lookups for fault diagnosis.

PROJECTS

Dionysus — Mar 2023 – Present
Swift, SwiftUI, Python, FastAPI, CoreHaptics, tvOS, macOS, watchOS, iPadOS, RESTful APIs
- Architected a multi-platform media aggregation service (iOS, tvOS, etc.) with a concurrent Python/FastAPI backend that asynchronously scrapes and caches data from multiple sources.
- Developed 5 distinct, native SwiftUI frontends from a shared codebase, featuring a dynamic theming system and custom UI components for a polished, platform-specific user experience.

Route Scout — June 2025 – August 2025
Python, Flask, JavaScript, HTML/CSS, SQL, Jinja2, RESTful APIs
- Developed a full-stack network visualization tool to automate packet tracing across Verizon's core network, reducing diagnostic time for 50k+ engineers from hours to seconds and saving 100+ hours monthly.
- Engineered a Python/Flask backend to process complex, multi-path topologies and a dynamic JavaScript frontend to render interactive, bi-directional path visualizations for high-precision fault analysis.

F1 AR — Jan 2024 – May 2024
Swift, ARKit, RealityKit, Python, FastAPI, AWS S3, SceneKit
- Engineered an iOS application using ARKit and RealityKit to project and animate historical Formula 1 race data, allowing users to visualize entire races in their physical environment with full playback control.
- Architected a scalable Python/FastAPI backend on AWS to process, store, and serve large telemetry datasets and 3D models to the client, enabling a high-fidelity, real-time AR experience.

Smart Glasses — May 2024 – Present
Arduino Nano, C++, Bluetooth, OLED Display, Mobile App Development
- Developed smart glasses using an Arduino Nano, programmed in C++ to display real-time notifications and information like media, time, date, and local weather, with Bluetooth communication for smartphone integration.

PATENTS

"*Tech-powered Somnolence Detection in a Car*" – US Patent No. 11433916B1 – Date of Patent: Sep 9, 2022

"*Intelligent Cup Monitoring Water Consumption*" – US Patent No. 202303468B – Date of Patent: May 3, 2023

TECHNICAL SKILLS

Languages: Java, Python, Swift, Kotlin, C/C++, SQL, Bash, JavaScript, HTML, MATLAB, CSS
Technologies: PyTorch, Tensorflow, Node.js, Flask, FastAPI, React, React Native, Firebase, SwiftUI, Core Data, Cloud Firestore, UIKit, Android SDK, ARKit, RealityKit, SceneKit, CoreHaptics, Bluetooth LE, MapKit
Developer Tools: Git, GCP, VS Code, Visual Studio, Xcode, PyCharm, IntelliJ, Webstorm, Azure, AWS, AWS S3, Android Studio, .NET, Unity, Unreal Engine
Concepts: Mobile App Development, Machine Learning, Deep Learning, 3D Rendering, Data Caching, Scalable Backends, NLP, Generative A.I., Agile Methodology, Regression, Statistical Analysis, Robotics, UI/UX Design, RESTful APIs