Adam Mhal

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EDUCATION

Boston University   Boston, MA
Bachelor's in Computer Engineering, GPA: 3.84   *Expected Graduation: May. 2027*
- **Relevant Coursework**: Linear Algebra, Multivariable Calculus, Deep Learning, Advanced Data Structures and Algorithms

EXPERIENCE

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.

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.

PROJECTS

Dionysus   Mar 2023 – Present
Kotlin, Jetpack Compose, Python, FastAPI, Material Design, Android, Wear OS, Android TV, RESTful APIs
- Architected a multi-platform media aggregation service (Android, Wear OS, etc.) with a concurrent Python/FastAPI backend that asynchronously scrapes and caches data from multiple sources.
- Developed 5 distinct, native Jetpack Compose interfaces from a shared Kotlin codebase, featuring adaptive theming and custom UI components for a cohesive, platform-optimized 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
Kotlin, ARCore, Sceneform, Python, FastAPI, AWS S3, OpenGL
- Engineered an Android application using ARCore and Sceneform 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, Android 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 Android 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, Kotlin, C/C++, SQL, Bash, JavaScript, HTML, MATLAB, CSS
Technologies: PyTorch, Tensorflow, Node.js, Flask, FastAPI, React, React Native, Firebase, Jetpack Compose, Material Design, Android SDK, ARCore, Sceneform, Bluetooth LE, Mapbox, OpenGL, SceneKit
Developer Tools: Git, GCP, VS Code, Visual Studio, Android Studio, IntelliJ, Webstorm, Azure, AWS, AWS S3, .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