Hassan Alkhafaji

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EDUCATION

Wayne State University *Detroit*, MI
Bachelor of Science in Computer Science GPA 3.43 Jan.. 2025 – Dec. 2026

Henry Ford College *Dearborn*, MI
Associate's in Computer Science Aug. 2022 – Jan. 2025

EXPERIENCE

Software Engineering Intern Dec. 2023 – Jan. 2025
BeAware Deaf Assistant *Detroit, MI*
- Implemented machine learning models using CoreML and PyTorch to increase transcription accuracy by 12%.
- Coordinated intensive testing and debugging to ensure reliability across environments reducing latency by 20%.
- Provided closed captioning tech support to 10+ conferences across the U.S and Canada, including AV equipment.

Adjunct Instructor Jan. 2025 – Present
Henry Ford College *Detroit, MI*
- Instructing **20+** students in mastering Apple's ecosystem through challenge-based learning in Swift and SwiftUI.
- Assess and troubleshoot technical issues brought by students, faculty, and staff, from code bugs to device configuration.
- Develop and review complex student projects, providing guidance on architecture, debugging, and best practices.

iOS Engineer Intern July 2024 – Present
Apple Developer Academy Renaissance *Detroit, MI*
- Developing and deploying two full-stack iOS applications (iPhone and iPad) using **SwiftUI** and Firebase.
- Implementing **Firebase Authentication**, **Firestore**, and **Cloud Functions** to manage user data and real-time updates, ensuring secure and efficient backend operations with **1000+** underprivileged students.
- Conducting unit and UI testing to ensure application stability and performance across various iOS devices.
- Conducted comprehensive unit and UI testing across multiple iOS devices, ensuring application stability, performance, and accessibility by integrating inclusive features like VoiceOver and Dynamic Type.

PROJECTS

MidnightGolf | *SwiftUI, Firebase, Dependency Injection*
- Developed a full-stack iOS app using SwiftUI, Firebase, and **MVVM**, providing underserved high school students with access to resources like scholarships, event info, and dining etiquette guides.
- Integrated Firebase Authentication, Firestore, and Firebase Messaging for secure login, real-time data sync.
- Applied **Dependency Injection** to ensure modular, testable architecture and improved maintainability.
- Designed a user-friendly interface tailored for students, enhancing engagement while collaborating in an Agile workflow.

MemoriaAR | *Python, SwiftUI, Django, SQLite*
- Integrated MVVM architecture to take voice recordings using AVfoundation, images using PhotosUI, and implement them into a data model using Swift programming language.
- Designed an intuitive user interface using Apple's HIG guidelines to create a seamless user experience, also making it accessible for different user groups that was tested by **50+** beta users.

iMower | *C++, VEX, Embedded*
- Integrated a suite of sensors including ultrasonic distance sensors, bump switches, and gyroscopes to enable real-time obstacle detection, collision prevention, and orientation correction using **VEX** hardware.
- Developed the autonomous control system in **C++**, implementing PID algorithms to maintain precise motor control for straight-line travel, smooth turns across varying terrain, and a fail safe system that instantly stops motor function.
- Earned **2nd** place out of **30+** teams in Henry Ford College's Engineering Competition based on technical execution.

TECHNICAL SKILLS

Languages: Swift, Python, C, C++, Java, SQL, JavaScript, HTML, CSS, PHP
Frameworks: SwiftUI, UIKit, Firebase, Django, React, Flask, Postgres, Flutter, MongoDB
Developer Tools: Git, Docker, Google Cloud Platform, Postman
Libraries: Material-UI, NumPy, Matplotlib, OpenCV