

LIAM HORCH

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EDUCATION

George Mason University
Master of Science in Computer Science

August 2024 - Present

University of Maryland, College Park
Bachelor of Science in Computer Science
Minor in Mathematics

May 2022

WORK EXPERIENCE

Alarm.com [Mobile Engineer](#)

March 2022 - Present

- Collaborating on a cross-functional agile full stack team to develop user-focused security features and UI improvements, impacting millions of users weekly.
- Designing a real-time HTML to SwiftUI trans-compiler that supports advanced UI elements, outperforming Apple's NSAttributedString by 50% in rendering speed.
- Delivering the new AI chat bot feature from the ground up, leveraging an LLM to handle user inquiries, hosted on one of the company's first micro APIs.
- Skills employed: [Swift](#), [SwiftUI](#), [Combine](#), [Obj-c](#), [C#](#), [MYSQL](#), [JIRA](#), [BitBucket](#)

Focused Support LLC [Software Engineer Intern](#)

May - August 2021

- Integrated a large collection of positional data from a government provided server, which updated regularly through the use of java multithreading, in order to visually populate a map for a classified program.
- Mimicked the dead reckoning algorithm to predict the path of aircraft and decrease run time by 60%.
- Skills employed: [Java](#), [Big data](#), [React](#), [Multithreading](#), [REST APIs](#), [git](#), [AWS](#)

PROJECTS

Objective-C Subset Interpreter

August 2024 - Present

- Engineered an interpreter in Swift that processes a subset of Objective-C, supporting features such as closures, classes, functions, arrays, I/O, and more.
- Developed a command-line chess game using Objective-C, which was fully executed by the interpreter, demonstrating its capability to handle complex logic, data structures, and control flow within the supported subset of Objective-C features.
- Skills employed: [Swift](#), [Objective-C](#), [Interpreter design](#), [Memory management](#), [AST](#), [Lexical analysis](#)

Mini Social Media (Beta)

March - December 2023

- Created a stripped down de-cluttered iOS social media app where users can only post 42 character blurbs.
- Hosted the backend on AWS Amplify for image storage and managed user data and posts using Google Cloud MySQL.
- Designed a robust backend using JavaScript, Node.js, and Express.js, enabling seamless mobile app connectivity to the hosted MySQL server.
- Skills employed: [SwiftUI](#), [AWS Amplify](#), [MYSQL](#), [Relational databases](#), [Networking](#), [JavaScript](#)

Wordeely

October 2022 - February 2023

- Developed an app encapsulating an addictively simple word game, perfected through the feedback from a curated group of testers
- Deployed an automated back-end using Node.js and Express to deliver a daily wordeely for infinite replays.
- Successfully launched the app on the Apple App Store.
- Skills employed: [Swift](#), [SwiftUI](#), [App development](#), [UI/ UX](#), [Google Cloud](#), [Node.js](#), [Express](#), [MongoDB](#)