

# Alan Hagedorn

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## EDUCATION

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### University of Minnesota

*Bachelor of Science in Computer Science, 4.0 GPA*

Twin-Cities, MN

*Graduation expected in 2024*

**Relevant Coursework:** Intro to Computing, Intro to Data Structures and Algorithms, Discrete Mathematics, Advanced Programming Principles, Algorithms and Data Structures

## TECHNICAL SKILLS

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**Languages:** Python, Java, JavaScript, HTML/CSS, Kotlin, Ruby, OCaml

**Database Experience:** PostgreSQL, SQLite, Firestore (No-SQL)

**Developer Tools:** Git, GitHub, IntelliJ, Android Studio

## EXPERIENCE

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### Modern Treasury

*Software Engineer Intern*

Jan 2022 – Present

*San Francisco, CA*

- Developing full-stack (Ruby, React, GraphQL) client-facing dashboards to facilitate financial transactions

## PROJECTS

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### SkateShare | Kotlin, Dagger Hilt, Firebase, SQLite, Maps APK, LeakCanary

July 2021 – Present

- Developed an MVVM android app for users to record and share electric skateboarding routes
- Used Firebase for an infinitely-scrolling feed of media posts, customizable user profiles, and route sharing
- Utilized geospatial queries with Firestore for saving and sharing routes to a global map
- Used Room, SQLite, and MPChart to save and visualize data from private routes
- Used De Boor's B-Spline algorithm to smooth and interpolate raw route data
- Was exposed to android development, MVVM architecture, dependency injection, Firebase, and geo queries

### Grade Analysis and Visualization Webapp | Python, Django, PostgreSQL

April – June 2021

- Developed a web application for professors to upload, analyze, and visualize course data
- Implemented grading curve suggestions and future assignment predictions based on past scores
- Acquired database skills by writing and refactoring models, improving performance
- Was exposed to Django, Pandas, SQL, CRUD applications, and Bootstrap4

### Live Energy Monitor | Python, Flask, PostgreSQL

August 2021 - Present

- Developed a website that displays real time and historical energy usage.
- Built a basic API endpoint with Flask to implement HTTP requests with ESP32 microcontrollers to collect data.

### Conway's Game of Life (Android) | Kotlin

August 2021

- Developed an app that allows players to explore Conway's Game of Life.
- Features drawing of cells, allowing users to visualize the algorithm in real time.

### Four Key Osu! Mania Bot | Java, Robot

April 2021

- Developed a bot which plays Osu! Mania with near 100.00% accuracy, higher than the current global record.

## HONORS AND AWARDS

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### Eagle Scout

November 2020

- Participated and helped lead in a Boy Scout troop for 5 years
- Served local and global communities through over 70 hours of service projects.

### Dean's List

- Present on the Dean's List (2019-2020) at Concordia University, and at the University of Minnesota (2021).