

Tyler Beach

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EDUCATION

University of Alberta

Bachelor of Science in Computer Science

Edmonton, AB

December 2025 (Expected)

PROJECTS

Event Horizon | *Java, Firebase, JUnit, Espresso, UML*

[Repository](#)

- Developed an intuitive **event management Android application**, enabling users to effortlessly create, join, and organize events, streamlining event logistics and improving overall user satisfaction.
- Designed and implemented robust **unit and UI tests using JUnit and Espresso**, ensuring high code quality and preventing regressions, resulting in a stable and reliable application.
- Collaborated with a team of 6, **conducted sprint planning every two weeks** to ensure seamless feature integration and alignment with course objectives, contributing to a well-coordinated project.
- Used **UML diagrams and Figma** for designing the user interface and system architecture to improve team collaboration and project clarity, streamlining the development process.

Course Helper Bot | *Python, Express.js, JavaScript, MongoDB, Heroku, Linux*

[Repository](#)

- Developed a RESTful API** using Express.js and JavaScript to serve up-to-date course information for the University of Alberta, ensuring high performance and scalability.
- Created a **Discord bot** that allows users to interact with the API instantly, providing immediate access to course details directly within the Discord platform.
- Automated the data collection process by implementing web scraping scripts in Python, successfully **extracting and storing over 100,000 lines of course data** in a MongoDB database.
- Hosted the Discord bot on my **Linux server**, ensuring continuous availability and smooth interaction with the API for up-to-date course information on 1000+ courses offered.

MediMinutes | *React, JavaScript, Python, Tailwind, Beautiful Soup, Firebase*

[Website](#)

- Developed a dynamic **medical quiz web application** to enable users to learn and test their knowledge on **over 200 medical topics**, enhancing engagement and education.
- Leveraged the Beautiful Soup 4 to web scrape and process over **20,000 lines of data from the World Health Organization**, ensuring accurate data which established a dependable database for the app.
- Implemented **Firebase Authentication** to manage user accounts, enabling secure login and personalized tracking of quiz completion, allowing users to monitor their progress and revisit unfinished topics.
- Crafted a visually appealing and efficient user interface while ensuring backend reliability, enhancing overall user satisfaction and application performance.

Story Teller | *React, JavaScript, CSS, Python, Flask, OpenAI, ElevenLabs*

[Repository](#)

- Developed a web app that generates and narrates children's stories, offering a unique and engaging user experience
- Integrated **OpenAI's generative text API** for story creation to offer a distinctive user experience with each session, making the application more engaging.
- Utilized **ElevenLabs for high-quality text-to-speech** to enhance user engagement and satisfaction, creating a more immersive experience.

Algorithm Visualizer | *React, JavaScript, Tailwind*

[Website](#)

- Developed an interactive web application to **visualize sorting and pathfinding algorithms** to aid users in understanding algorithmic concepts through visual representation, improving user comprehension.
- Designed and implemented a **pathfinding feature** to demonstrate algorithms like **Dijkstra's, BFS, and DFS** to illustrate their efficiency in finding the shortest path in a grid, providing a comprehensive educational tool.
- Enhanced user comprehension and engagement with **intuitive visualizations and interactive elements**, creating a more effective learning experience.

SKILLS

Languages: Python, JavaScript, TypeScript, Java, C, SQL, CSS, HTML, Golang

Technologies: Firebase, MongoDB, PostgreSQL, Linux, Git, GitHub, Figma, Docker

Libraries/Frameworks: React, Next.js, Express.js, Flask, Tailwind, Bootstrap