

Tyler Beach

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EDUCATION

University of Alberta

Edmonton, AB

Bachelor of Science in Computer Science

December 2025 (Expected)

- Relevant Coursework: Software Engineering, Data Structures and Algorithms, Database Management

PROJECTS

Event Horizon | *Java, Firebase, Git, UML, Figma*

[Repository](#)

- Developed a user-friendly Android application for a Software Engineering course, adhering to design principles, which resulted in positive feedback from users and a maintainable codebase.
- Collaborated with a team of 6, conducted sprint planning every two weeks, and consistently incorporated feedback to ensure seamless feature integration and alignment with course objectives.
- Implemented Firebase to provide real-time updates of event details and attendee status, enhancing user engagement with instant notifications.
- Used UML diagrams and Figma for designing the user interface and system architecture, improving team collaboration and project clarity.

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

[Repository](#)

- Built a web application that generates and narrates children's stories, providing a unique and engaging experience for users.
- Integrated OpenAI's generative text API for story creation, offering a distinctive user experience with each session.
- Utilized ElevenLabs for high-quality text-to-speech, significantly enhancing user engagement and satisfaction.
- Contributed to a team-driven project during a competitive hackathon, successfully delivering the application within 24 hours.

Algorithm Visualizer | *React, JavaScript, Tailwind*

[Website](#)

- Developed an interactive web application to visualize sorting and pathfinding algorithms, aiding users in understanding algorithmic concepts through visual representation.
- Designed and implemented a pathfinding feature that demonstrates algorithms like Dijkstra's, BFS, and DFS, illustrating their efficiency in finding the shortest path in a grid.
- Enhanced user comprehension and engagement with intuitive visualizations and interactive elements.

FireSafe | *Python, TypeScript, HTML, CSS, Streamlit, TensorFlow, MongoDB*

[Repository](#)

- Engineered a full-stack web application for real-time forest fire alerts as part of a climate activism hackathon, focusing on providing timely information to users in high-risk areas.
- Trained a machine learning model to identify secluded areas in satellite images, enhancing the accuracy and effectiveness of real-time forest fire alerts.
- Secured a top 6 position out of 200 participants in a climate activism hackathon by ensuring product robustness and scalability.

Twitter Backend | *Python, SQL, SQLite*

[Repository](#)

- Designed and implemented a database schema based on project requirements to create a functioning backend, resulting in the ability to manage user data and relationships effectively.
- Enabled functionalities such as creating tweets, following users, and liking tweets using SQL, leading to a fully operational backend system.
- Collaborated with a team of 4 to ensure seamless integration and alignment with course objectives, enhancing teamwork and project success.
- Gained hands-on experience with relational databases and backend development, which strengthened my understanding of SQL and database management.

SKILLS

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

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

Libraries: React, Next.js, Flask, Tailwind, Bootstrap, Axios