

Adlai Bridson-Boyczuk

adlaibb@gmail.com | <https://adlai.ca> | github.com/boyczuk

Education

Queen's University – Bachelor of Computing (Honours)

May 2010

- Specialization in Artificial Intelligence
- GPA: 3.7 (Dean's Honour List: 2021-2022, 2022-2023, 2023-2024)

Experience

Software Developer, Proxima Command – Toronto, ON

July 2024 – Nov 2024

- Developed a Python-based starship simulator using Pygame, creating a proof-of-concept for a physical game room where two teams compete in real-time against each other.
- Collaborated with a mechanical engineer to integrate Raspberry Pis across game stations, implementing a multithreading system to allow multiple players, using mutex locks to fix any race conditions creating a smooth gameplay experience for users.
- Optimized system performance by hard-coding pins connecting software to CircuitPython running on Arduinos, avoiding wireless connections to ensure reliability.

Junior Developer, The World of Yasu – Toronto, ON

May 2023 – Jan 2024

- Created a visually engaging web application with a custom animation intro using React and Tailwind CSS, resulting in a 30% decrease in bounce rate.
- Improved animation performance by hosting assets on a CDN, increasing page load speed by 100%.
- Addressed mobile compatibility issues by using Tailwind CSS and testing across multiple screen sizes, maintaining application functionality on all device types.
- Proposed and delivered UI/UX adjustments beyond given figma mockups, incorporating client feedback to create a more intuitive and visually appealing GUI.

Projects

GoChat

github.com/boyczuk/GoChat

- Developed a full-stack real-time messaging application using React and JavaScript for the frontend, Go for the backend, and PostgreSQL for the database.
- Implemented session-based authentication by storing session tokens in HTTP cookies.
- Utilized WebSockets for real-time communication, ensuring instant message delivery on the user end.

Video-based UAV Detection Capstone

github.com/L1NNA/cuas

- Programmed a YOLOv5-based detection system in Python with PyTorch, achieving 77% accuracy in detecting UAVs from other aerial objects (Helicopters, Birds, Planes, etc) using OpenCV to visualize and normalize label data.
- Achieved 94.4% precision and 93.2% recall, showing utility in real-world UAV surveillance.

BlackMarket2D Strategy Game

github.com/boyczuk/BlackMarket2D

- Developed a crime strategy game in Unity with scripting in C# based around autonomous NPCs with individual moods, personality traits, relationships, and roles within criminal hierarchies.
- Implemented a reusable custom A* pathfinding algorithm for realistic navigation, with fixes for smooth pathfinding around barriers and other NPCs.

Arcade-Rate

github.com/boyczuk/web-arcade-rate

- Coded a full-stack web application for tracking and ranking video games using React and TypeScript for the frontend, Node.js for the backend, hosted on Firebase using cloud functions and Firestore.

Skills

Languages & Frameworks: Python, JavaScript, Java, TypeScript, Go, React, Node.js, Flask, TensorFlow, PyTorch, HTML/CSS

Tools & Technologies: SQL, MongoDB, PostgreSQL, Firebase, RESTful APIs, Docker, Git, Linux, Figma, Scrum