

# Adlai Bridson-Boyczuk

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## EDUCATION

### Queen's University

Kingston, ON

*Bachelor of Computing (Honours), Specialization: Artificial Intelligence*

*Sept 2020 – April 2024*

- **Relevant Coursework:** Neural and Genetic Computing, Reinforcement learning, Algorithms, Data Structures, Artificial Intelligence, Operating Systems, Software Quality Assurance, Software Architecture
- 3.7/4.3 GPA, Dean's Honour List (2021-2022, 2022-2023, 2023-2024)

## SKILLS

**Programming Languages:** Python, Typescript, JavaScript, Java, C, Bash

**Frameworks & Libraries:** React, Node.js, Express.js, Flask, HTML, CSS, TailwindCSS

**Machine Learning & AI:** TensorFlow, Keras, PyTorch, YOLOv5, pandas, NumPy

**Technologies & Tools:** MongoDB, SQL, RESTful APIs, Pytest, Linux, Machine Learning, Git, Docker, VSCode, Agile, Waterfall, Scrum, OOP, Communication

## EXPERIENCE

### Software Developer

July 2024 – Sept 2024

*Proxima Command*

*Toronto, ON*

- Programmed a Python-based starship emulator using Pygame, creating a proof-of-concept for a physical game room where two teams could compete against each other.
- Collaborated with a mechanical engineer to integrate Raspberry Pis across stations, ensuring efficient data transfer and handling multithreading challenges like race conditions, which made the system more scalable and feasible for future development.

### Full-stack Developer

May 2023 – Jan 2024

*The World of Yasu*

*Toronto, ON*

- Developed a visually engaging main page with a custom animation intro using React and Tailwind CSS, resulting in a **10% decrease in bounce rate** and an **increase in average session duration by 30 seconds**
- Designed and integrated a newsletter component with SendGrid to **boost viewer retention**, using TypeScript, React, and Firebase for back-end services.
- Worked and communicated closely with the owner and graphic designers, translating business objectives into functional UI components, and optimized the user experience across various devices using Figma.

### General Member/Developer

Sept 2022 – April 2023

*QUANTT (Queen's University Algorithmic Network & Trading Team)*

*Kingston, ON*

- Developed an automated trading strategy using Python, leveraging economic data from Tech and Real Estate sectors, utilizing SMA and RSI indicators for short sales.
- Achieved an 18% return over 3 years, demonstrating the effectiveness in capturing short-term market movements.

## PROJECTS

**UAV Detection Capstone Thesis** | *Python, PyTorch, YOLOv5, OpenCV, MATLAB, NumPy, pandas*

- Developed a YOLOv5-based detection system with PyTorch, achieving 77% accuracy in detecting UAVs from other aerial objects, using OpenCV to visualize and normalize label data.
- Achieved 94.4% precision and 93.2% recall, showing robustness in real-world UAV surveillance.

**Arcade-Rate** | *Typescript, React.js, Express.js, Firebase, Firestore, HTML, CSS,*

- Built a full stack web application used to rank, compare, and track video games.
- Data from IGDB connected through an express.js backend hosted using Firebase cloud functions and Firestore.

**Qbnb** | *Python, Flask, MongoDB, Pytest, Linux, Docker, Github actions*

- Built on a Python-based CLI app for property rentals with a Flask backend, managing user data in MongoDB
- Implemented automated unit/integration tests using Pytest and GitHub actions, ensuring high-quality CI/CD pipelines while following an agile development cycle.

**CNN for Tomato Disease Classification** | *Python, Jupyter Notebooks, NumPy, TensorFlow, Keras*

- Created a Convolutional Neural Network for classifying tomato leaf diseases in 10 classes with 11,000+ images.
- Achieved a **validation accuracy of 75%** after implementing dropout layers to combat overfitting.