Adlai Bridson-Boyczuk

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Education

Queen's University Kingston, ON

Bachelor of Computing (Honours) in Computer Science *Sept 2020 – April 2024*

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

Skills

Languages: Python, Java, JavaScript, Typescript, C, C#, Bash, x86 Assembly
Libraries & Frameworks: Node.js, Express.js, React, TensorFlow, PyTorch, Flask, HTML, CSS, jQuery, scikit-learn, TailwindCSS
Technologies: MongoDB, MySQL, REST APIs, pandas, NumPy, Pytest, Linux, Arduino, Machine Learning, Git, Docker, VS Code, Agile, Waterfall, OOP

Experience

Software Developer July 2024 – present

Proxima Command *Toronto, ON*

- Programmed a starship emulator system using Pygame in Python to be connected to a physical escape room.
- Collaborated with a mechanical engineer to implement the emulator as a physical game with several Raspberry Pis for each station in the simulation, resulting in an immersive and interactive experience.

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.
- Collaborated closely with the owner and graphic designers, translating business objectives into functional UI components, and optimized the user experience across various devices using Figma.

Software Developer Sept 2022 – April 2023

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

- Created an automated algorithmic trading strategy using Python on QuantConnect platform, backtested against the S&P index
- Leveraged economic data from Tech and Real Estate sectors, analyzed using Pandas library, to filter securities and trigger short sales using Simple Moving Average (SMA) and Relative Strength Index (RSI) technical indicators.
- **Achieved a profitable outcome with an 18% return** over a 3-year period, demonstrating the effectiveness of the strategy in capturing short-term price movements in the financial markets.

Projects

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

- Built on a Python-based CLI app for property rentals and booking using a back end Flask server, managing user data in MongoDB
- Followed an agile development cycle and utilized Pytest for unit and integration testing to ensure product quality

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.
- Using data from IGDB connected through an express.js backend with firebase cloud functions.

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

- Created a Convolutional Neural Network for classifying various diseases in tomato leaves with greyscale data.
- Achieved a **validation accuracy of 75%** after simplifying the architecture and implementing dropout layers to combat overfitting.

Securities Trading Algorithm | *Python, Jupyter Notebooks, NumPy, pandas, QuantConnect, Scikit-learn*

- Developed a Python securities trading algorithm that **achieved 18% profit** in 3-year backtest against S&P 500