




# JACOB JOHNSTONE

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## Education

### Western University

Sept 2020 – Apr 2024

*Bachelor of Software Engineering, B.E.Sc*

*London, ON*

- Western Admission Scholarship
- Dean's Honour List 2023
- Introduction to Kubernetes on Azure – *Trophy*
- Relevant Coursework: Software Engineering Design, Software Testing, Operating Systems, Artificial Intelligence, Data Structures and Algorithms, Cloud Computing, Database Management Systems

## Project Experience

### Pirate Software Game Jam 16

Jan 2025

*Game Site | Source Code*

- Developed a 2D action game with **Unity and C#** focusing on **event-driven** and **OOP design patterns** to ensure modular, maintainable, and scalable code
- Utilized the **A\* algorithm** and implemented character states for NPC pathfinding and behaviours
- Managed version control with **Git**

### ML Image Translation

Sept 2023 – Apr 2024

*Capstone Project*

*Western University*

- Enhanced video streaming quality and usability, creating a **9+ frames per second increase** by seamlessly integrating Nvidia's CUDA API for accelerated processing
- Reduced image translation errors, increasing the model's accuracy by creating **balanced datasets of 700+ images** from each domain
- Achieved translations approved by medical professionals through refined training of the ML model

### Gym Management System

Sept 2022 – Dec 2022

*Source Code*

*Western University*

- Developed and deployed a full-stack web application for managing gym memberships and classes
- Utilized **MySQL** for data storage, **Node/Express** backend, and **ReactJS** for the user interface
- Integrated **REST APIs** to connect the front-end and back-end, extensively tested with **Insomnia**

### Music Manager

Sept 2022 – Dec 2022

*Source Code*

*Western University*

- Developed a full-stack music web application to create and listen to playlists
- Utilized React for the user interface, Node/Express for a RESTful backend, and a .csv file for metadata, deployed with **AWS**

### Shopping Catalogue

Jan 2021 – Apr 2021

- Designed a fashion shopping catalogue, creating standardized design documents and **UML diagrams**
- Utilized **JavaFX and SceneBuilder** for the backend and GUI, while managing catalogue data with a **SQL** database

## Extracurricular Activities

### Anne of Green Gables Production

Apr 2020

- Managed and programmed lighting effects for production
- Assisted with audio management and audio cues

## Technical Skills

**Languages:** Java, JavaScript, TypeScript, C#, SQL, Python, HTML5, CSS, C++, ARM Assembly

**Developer Tools:** AWS, Insomnia, Git, Jira, Unity, Figma

**Libraries/Frameworks:** ReactJS, TailwindCSS, ExpressJS, NodeJS, PyTorch

**Other:** Agile, Linux, OOP, Data Structures, Office 365 Suite