JACOB JOHNSTONE

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Personal-portfolio-website-lovat-nine.vercel.app

Education

Western University   **Sept 2020 – Apr 2024**
Bachelor of Software Engineering   *London, ON*
- Dean's Honour List
- Relevant Coursework: Software Engineering Design, Software Testing, Operating Systems, Artificial Intelligence, Data Structures and Algorithms, Cloud Computing, Database Management Systems

Project Experience

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
- 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
Source Code
- 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**

Extracurricular Activities

Pirate Software Game Jam 16   **Jan 2025**
Game Site | Source Code
- Developed a 2D action game with **Unity and C#** focusing on **event-driven design patterns** to ensure modular, maintainable, and scalable code
- Utilized the **A* algorithm** and implemented character states for NPC pathfinding and behaviours
- Created all assets using Aseprite
- Managed version control with **Git**

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