

JACOB JOHNSTONE, B.E.Sc

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SKILLS

Languages: Java, Python, JavaScript, TypeScript, C++, C#, SQL

Frameworks/APIs: React, Express, REST

Other: Git, NoSQL, Operating Systems, AWS, Agile, OOP, Linux

PROJECTS

AI Image Translation – 2023 - 2024

- Worked closely with a team of 4 to train a machine learning model that translates model heart images into realistic heart images for enhanced medical student training.
- Implemented rapid image translation allowing camera compatibility to record modeled surgery practices and display them in the realistic domain.
- Tested the project on a headless server that allowed access to enhanced computing power to simulate the proper working environment.
- Technologies: Python, PyTorch, CycleGAN, Git, PuTTY, Linux

Class Syllabus Manager – 2023

- Implemented the front-end of a course syllabus web application using react; allows educators to create and edit course outlines efficiently.
- Developed a RESTful API for client-server interaction so that the proper database queries and server functionalities can be accessed.
- Created an express back-end to recognize end points and connect to the database to ensure user accounts and outlines are saved.
- Implemented a NoSQL database using MongoDB to ensure persistent storage of syllabi for users.
- Tested endpoints using Insomnia to ensure proper functionality of all web application features.
- Deployed application using AWS.
- Technologies: JavaScript, React, HTML, CSS, Insomnia, Git, AWS, MongoDB, Node.js

Gym Management System – 2022 - 2023

- Designed a relational database to store information regarding memberships and classes so a gym could manage their operations efficiently.
- Implemented the design using MySQL connected to a simple web application to test database queries and data manipulation.
- Ensured the design was normalized and lacked redundancy to ensure optimal efficiency.
- Technologies: MySQL, JavaScript, React, Express, HTML, CSS, Git, Node.js

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EDUCATION

University of Western Ontario – September 2020 – April 2024

B.E.Sc Software Engineering

- Dean's Honor List 2023
- **Relevant Coursework:** Data Structures and Algorithms, Operating Systems, Artificial Intelligence, Software Engineering Design, Computer Interfaces, Computer System Design, Software Testing, Information Security, Cloud Computing, Database Management Systems, Web Technologies, Microprocessors & Microcomputers

WORK EXPERIENCE

ForeverLock Paving Stone LTD. – May 2022 – August 2022

- Assisted in preparation and installation of interlocking driveways within a team.
- Completed driveway and sidewalk repairs to client satisfaction.
- Exercised safety, coordination, and teamwork while maintaining attention to detail.

Country Terrace Nursing Home – May 2021 – August 2021

- Responsible for COVID screening employees and visitors to protect the health and safety of the individuals.
- Practiced and employed infection control procedures to minimize risk of outbreaks in the home.

McDonalds – July 2019 – August 2020

- Responsible as a line cook within a team to ensure orders were accurate and up to the gold standard ensuring a pleasant visit for customers.
- Practiced proper food preparation and food safety to minimize the risk of cross contamination.
- Maintained a clean and clear work environment allowing for success within a busy environment.
- Developed excellent communication skills ensuring minimal confusion in a fast paced work environment.

VOLUNTEER WORK

Anne of Green Gables Production – April 2020

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