

Samuel Catania

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A self-motivated, third-year student pursuing an Honours Specialization in Computer Science at Western University, passionate about machine learning, full-stack web development, and software engineering.

WORK EXPERIENCE

Connect-IT, Western University

London, Ontario

Technical Support Staff

2021 – Present

- Delivered technical and customer support to 99% of students and staff at 16 Western University residences, including Brescia University College and Huron University College residences
- Used Hermes, Western-exclusive ticketing software, to record all incidents with a ticket resolution rate of 95% over the 2021-2022 period
- Helped to identify and resolve campus-wide MacBook network incompatibility issues, connecting thousands of affected students in time for first term examinations

PROJECTS

Project Manger – Western Software Engineering:

August 2022 – May 2023

- Accomplished project manager with experience leading a team of 5 students to build a successful full-stack web application using the MERN stack (MongoDB, ExpressJS, ReactJS, and NodeJS)
- Demonstrated expertise in implementing software management principles while directing team educational and coordinating team meetings throughout the project's duration
- Proven ability to oversee project development, ensuring timely delivery while maintaining quality, communication and team motivation, resulting in a successful project outcome

Smart Doorbell Application:

January 2023 – April 2022

- Led a team of students in developing robust and scalable C++ smart doorbell software for the Raspberry Pi within a strict four-month time constraint, equipped with autonomous video recording and saving capabilities
- Implementing high-performance algorithms capable of processing hundreds of frames in millisecond latency, leading to a 30% reduction in device processing time
- Demonstrated proficiency in OpenCV, GTKmm, and Wt Web Toolkit to implement advanced features such as motion detection, facial detection, networking, and remote access file reading/writing capabilities

Analysis of Supervised and Unsupervised Machine Learning Algorithms:

March 2022 – May 2022

- Designed and built custom supervised k-NN classification and unsupervised K-Means clustering machine learning algorithms from scratch in Python using NumPy and Matplotlib
- Enhanced the predictive accuracy of the k-NN algorithm by 20% through the implementation of extensive cross-validation techniques for hyperparameter training
- Leveraged scikit-learn to implement Decision Tree and Agglomerative Clustering algorithms, facilitating a comparative analysis of predictive and test accuracies between multiple machine learning models
- Analyzed the effects of overfitting by adding noisy data to original datasets, and compared the clustering capabilities of k-Means, Agglomerative Clustering, and Dendrograms, resulting in new insights for improving model accuracy

SKILLS

Languages: Java, JavaScript, Python, C, C++, SQL (MySQL), R, ARM, HTML

Tools: Git, ReactJS, ExpressJS, NodeJS, MongoDB, Tailwind, Selenium, Swing, Maven, Android Studio, Bitbucket, Gradle, Docker, Linux, UNIX

EDUCATION

Western University

London, Ontario

Honours Specialization in Computer Science - BSc (Hons)

Expected 2024

- Cumulative GPA: 3.7