

Mississauga, ON  
[tdesa.dev](https://tdesa.dev)

# Thomas De Sa

[LinkedIn](#)

647-395-0395  
desa5778@mylaurier.ca

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## SKILLS

**Languages:** C, C++, CSS, Bash, HTML, Java, JavaScript, PHP, Python, R, SQL

**Frameworks & Libraries:** React.js, Flask, Express.js, PyTorch, Scikit-learn, Pandas, NumPy, SciPy, Seaborn, Dash

**Tools & Platforms:** Git, Linux, Jupyter, Figma, MySQL, MongoDB, Node.js

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## EDUCATION

Waterloo, ON

Wilfrid Laurier University

Sept 2022 – Sept 2026

**Program of Study:** Honours BSc – Mathematics & Computer Science

**GPA:** 3.8

**Relevant Coursework:** Algorithm Design, Internet Computing, Machine Learning, Statistics & Probability, Networks

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## PROJECTS

### [Corporate News Aggregator](#)

*Python, JavaScript, HTML/CSS*

- Developed a full-stack web application that aggregates ethically themed corporate news by integrating GNews and Wikidata APIs, improving research efficiency for users investigating company practices.
- Built and deployed a Flask-based API with a MariaDB backend on a Raspberry Pi, enabling real-time querying of company metadata and news articles categorized by labor, environment, privacy, and governance.
- Designed an intuitive JavaScript and HTML frontend with dynamic search and filtering features, enhancing user experience and simplifying access to corporate ethical profiles.

### [Digit Classifier](#)

*Python, PyTorch, Flask, JavaScript*

- Designed and implemented a Convolutional Neural Network using PyTorch, trained on the MNIST dataset to accurately detect handwritten digits with a 98% testing accuracy.
- Built a full-stack application, by leveraging Flask to develop an API that processed user input and delivered the deep learning model's predictions to the frontend, creating an engaging experience with the neural network.

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## CERTIFICATIONS

### [IBM - Machine Learning with Python](#)

*NumPy, Pandas, Python, Scikit-learn*

- Developed and evaluated KNN, decision tree, logistic regression, and SVM statistical models to predict the likelihood of rain using weather data, leveraging accuracy score, Jaccard Index, and F1-Score to compare performance and identify the most effective model for reliable predictions.
- Implemented various classification techniques by writing Python code with Scikit-learn, NumPy, and Pandas, enabling efficient and accurate data analysis for machine learning tasks.

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## WORK EXPERIENCE

Drop-in Peer Tutor

Wilfrid Laurier University

Sept 2023 – Present

- Conducted drop-in homework help sessions for groups of 10-25 students, clarifying complex concepts in university math and STEM courses to improve their understanding and problem-solving skills.
- Demonstrated leadership skills by organizing and running tutoring sessions, maintaining the classroom, and fostering a supportive environment conducive to learning.
- Tailored support to each student's needs by assessing their proficiency levels and course content, ensuring efficient and equitable distribution of time.

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## AWARDS

- Dean's List 22/23, 23/24 academic years WLU
- Laurier Entrance Scholarship of \$2,500 for achieving an average of 88%, WLU, 2022
- Ontario Scholar award, St Aloysius Gonzaga, 2022
- Extended French Certificate, St Aloysius Gonzaga, 2022