

Stefan de Lasa

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Address: 108 Humbercrest Blvd. Toronto, ON, Canada, M6S 4L3

Date of Birth: December 3rd 2002

Place of Birth: Cambridge, MA, USA

Citizenship: Canadian & American

EDUCATION


University of Toronto, BASc in Computer Engineering 2020-2025
GPA: 3.86 / 4.0 (Dean's Honour List) (4 years + Co-op year)

Saint-Frère-André, High School - Toronto, ON, Canada 2016-2020
IB Diploma Programme: 40 / 45 points

WORK EXPERIENCE

Software Development Intern, *CentML*, Toronto, ON Sep 2023 - Aug 2024

CentML  develops tools to make machine learning (ML) deployments more affordable and efficient.

- Sole contributor of machine learning model remote compilation project.
- Designed ML model compilation caching system, to reduce costs and improve user experience.
- Enabled developer workflows with a local compilation server. 
- Developed a method to consistently hash ML models, including **LLMs** and **CNNs**.

Undergraduate Research Student, *James Elder, York University*, Toronto, ON May - Aug 2023

The Elder Lab  is using **image semantics** to improve computer vision monocular **depth estimation**.

- Formulated methods to apply Elder's model to enhance existing ML depth estimation solutions.
- Demonstrated **~20%** accuracy improvement over previous depth estimation models.
- Awarded **Student Choice Best Presentation** at the Lasonde Undergraduate Research Conference.

Software Engineer Intern, *PointClickCare (PCC)*, Toronto, ON May - Aug 2022

PCC creates healthcare software to assist vulnerable populations with out-of-hospital care.

- Wrote front-end code to ease the editing of patient screening templates.
- Extracted user metrics for PCC's Pendo analytics and workflow improvements system.

Data Management Intern, *IESO*, Toronto, ON Jun - Aug 2021

The IESO gathers and monitors electrical data from industrial customers throughout Ontario.

- Spearheaded **machine learning** project for anomaly detection, using IESO's historical datasets.
- Performed in-depth review of Meter Service Provider data, for meter billing report correctness.

EXTRA CURRICULARS

Planning Team Member, *UofT Self-Driving Car Team*, Toronto, ON Sep 2023 - May 2024

The aUToronto planning team develops navigation algorithms for autonomous vehicles.

- Created method to find the fastest route to the nearest empty parking spot.
- Proposed and integrated a technique to reduce map density, improving planning performance **>20%**.

Electrical Team Member, *Supermileage Team*, Toronto, ON Nov 2021 - May 2022

UTSM is a student team dedicated to designing and building a highly fuel-efficient vehicle.

- Designed and implemented car turning indicators and windshield wipers.

AWARDS

Lasonde Undergraduate Research Award (LURA) (\$10,000) 2023

Student Choice Best Presentation at the Lasonde Undergraduate Research Conference 2023

CONFERENCES

York Undergraduate Research Conference, Toronto, ON

Aug 2024

- Oral Presentation: “Improving Deep Learning Depth Estimation Using Image Semantics and Geometry”.
- Recieved the **Student Choice Best Presentation** award.

PROJECTS

3D Gaussian Splatting for Snapdragon (Qualcomm) Hardware

Sep 2024 - Present

- Created the first 3D Gaussian Splatting renderer for devices powered by Qualcomm GPUs.
- Investigated ways to boost rendering speed using approximate sorting and improved GPU kernels.

Programmable Compass

April 2023 [🔗](#)

- Used a GPS module to receive location data using USART communication and Direct Memory Access.
- Communicated via I2C with a magnetometer to determine my compass' orientation.
- Used Pulse-Width-Modulation to display the direction and distance on on a LED ring.

OS161 (Operating System)

Jan 2023 - April 2023 [🔗](#)

- Implemented **memory management**, page reclamation, demand paging, and page swapping with disk.
- Created core system calls for user programs including waitpid, fork, and exec.
- Added key synchronization primitives such as locks and condition variables.

ML Model for Circuit Identification

Jan 2023 - Apr 2023 [🔗](#)

- Created a **Convolutional Autoencoder Model (PyTorch)** to segment circuits drawings.
- Achieved a **45% accuracy**, representing a **200% increase** from the baseline.
- Wrote scripts to prepare image data for training, applying transformations to increase dataset size.

Radio Transceiver

Jan - Apr 2022 [🔗](#)

- Designed limiter, filter, mixer, and amplifier circuits for a radio receiver (**Altium, Multisim**).
- Demonstrated successful integration of our subcircuits into a functioning radio transceiver.
- Communicated design rationale to technical and non-technical audiences through presentations.

SKILLS

Programming: Python, PyTorch, C, C++, MATLAB, JavaScript, TypeScript, React, ARM Assembly
Dev Tools: Git, VSCode, Docker, AWS, K8S, SQL, Jenkins
Communication: LaTeX, Google Workspace, MS Office, Outlook

LANGUAGES

English: Native Proficiency

French: Native Proficiency

Polish: Beginner

INTERESTS / HOBBIES

Strategy board games, Table tennis, Puzzles, Escape rooms.

REFERENCES

Available upon request.