

Stefan de Lasa

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Citizenship: Canadian & American | Born: December 3rd 2002


EDUCATION

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

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 to ML model **remote compilation** project, optimizing model deployments.
- Enabled developer workflows with a local compilation server. See here: 
- Designed ML model compilation caching system, to reduce costs and improve user experience.
- 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 Lassonde 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, aUtoronto, 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, UTSM, Supermileage Team, Toronto, ON **Nov 2021 - May 2022**

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

- Designed car turning indicators and windshield wipers.

AWARDS

Lassonde Undergraduate Research Award (LURA) (\$10,000 CAD)	2023
Student Choice Best Presentation at the Lassonde Undergraduate Research Conference	2023
Dean's List Scholar (UofT)	2020-2023
UofT Engineering Entrance Scholarship (\$2,000 CAD)	2020

CONFERENCES

Lassonde Undergraduate Research Conference, York University, Toronto, ON **Aug 2024**

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


SELECTED PROJECTS

3D Gaussian Splatting for Snapdragon (Qualcomm) Hardware **Sep 2024 - Present**

- Implementing 3D Gaussian Splatting renderer for devices powered by Snapdragon Adreno **GPUs**.

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.

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 games, Table tennis, Crossword puzzles, Escape rooms.

REFERENCES

Dr. Gennady Pekhimenko, Assistant Professor of Computer Science at UofT, CEO of CentML.

Email: gennady@centml.ai, Website: 

Anand Jayarajan, Co-Founder and Chief Architect at CentML.

Email: anandj@centml.ai, Website: 

Dr. James Elder, Professor of CS at York University, York Research Chair in Human and Computer Vision.

Email: jelder@yorku.ca, Website: 