Eric Lefort

Tenstorrrent Digital Design Engineering — AI and robotics research at TUM LSY Lab

Toronto, Canada
+1 (289) 893-0948
eric.lefort8@gmail.com
linkedin.com/in/ericlefort1/
eric-lefort.github.io

Education

2020–2025 **University of Toronto**, *BASc*, Engineering Science: Robotics Engineering, cGPA 3.82/4.0.

Experience

May 2024–Aug 2024 **Learning Systems and Robotics Lab**, *Research Assistant*.
Technische Universität München. Supervisor: Dr. Angela Schoellig.
- Experimental reinforcement learning using reduced action space for more efficient exploration of over-actuated environments.
- Implemented control pipeline for Franka Emika FR3 robot using libfranka and ROS.
- Creation of MuJoCo simulation environment for learning lego manipulation with Franka Emika Panda

May 2023–Apr 2024 **Tenstorrent Inc.**, *AI Silicon Digital Design Co-op*, System-On-Chip team.
- Maintained Python script for parametric generation of chip interconnect network
  - Added support for mesh interconnect topology
- Created SystemVerilog + C API for writing C-based Network-On-Chip tests in full-chip simulation.
- Design and optimized RISC-V CPU for data movement engine using Chipyard Rocket Chip generator. Benchmarking and optimizing memory system, bus widths, CDC, etc. for optimal PPA.

May 2022–Aug 2022 **Computational Aerodynamics Group**, *Research Assistant*.
University of Toronto Institute for Aerospace Studies. Supervisor: Dr. David W. Zingg
- Analyzed flow solver performance to identify avenues for improving CFD algorithms.
- Researched unconventional methods to create meshes more quickly and easily.
- Implemented finite-difference algorithms for solving partial differential equations.

Sep 2021–Feb 2023 **University of Toronto Formula SAE Team**, *Senior Member*, Aerodynamics, Manufacturing.
- Used StarCCM to run simulations and optimize parameters for aerodynamic performance

May 2021–Aug 2021 **Rocscience Inc**, *Software Developer*.
- Automated UI testing and creation of documentation using TestComplete and Python
- Improved scalability and automation of UI testing process using Azure DevOps

Skills

Coding Python, C, C++, MATLAB, Git, SystemVerilog, ROS
Software Linux, Solidworks, Fusion360, StarCCM, LTSpice, LaTeX
Machining Metalworking (mill, lathe, drills, etc.), Laser Cutter, 3D printer
Languages English, French

Projects

Apr 2023 **Design and training of variant chess engine using CNNs**, *Python, PyTorch, C*.
- Supervised training of a CNN model to perform chess board evaluation function
- Implementation of heuristic search for atomic chess using trained evaluation function.

Mar 2023 **Built a mobile robot with path following and obstacle avoidance**, *C++*.
- Control using Arduino Uno. Scanning ultrasonic sensor to detect obstacles and perform path-finding

Oct 2022 **Programming TurtleBot Waffle Pi robots**, *ROS, Python*.
- Manually implemented bayesian methods using ROS to localize robot using landmarks.

Achievements & Certifications

Aug 2022 **Kenneth Ward Smith Scholarship, FASE Scholarship**, *Academic Achievement*.
Apr 2022 **NSERC USRA (turned down)**.
Aug 2020 **AP Scholar Award**, *College Board*, Calculus BC, Physics C: Mechanics, Electricity & Magnetism.
- Awarded for the achievement of three perfect 5/5 scores on AP examinations