

Lily (Linyi) Li

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Education

University of Toronto

Engineering Science ECE Major, Minor in Engineering Business

Sep 2020 - Jun 2024

GPA: 3.64/4.0

Awards

Dean's Honor List for five semesters

NSERC Undergraduate Student Research Award (USRA)

Faculty of Applied Science & Engineering Admission Awards

Relevant Courses

- Software

Software Engineering*, Computer Security**, Foundations of Computing, Systems Software, Computer Networks**, Programming on the Web

- Electronics and Hardware

Digital Communication*, Digital Systems Design**, Electronic Circuits, Semiconductor Electronic Devices, Computer Organization

- Control

Introduction to Control Theory, ECE470 Robot Modelling and Control*

- Math

Complex Analysis, Probability and Statistics, Vector Calculus and Fluid Mechanics

Skills

Programming: Python/Django, C, C++, Java, JavaScript/React, HTML, Matlab, Julia, SQL

Hardware: Verilog, ARM, NIOSII with tools LTspice, Intel Quartus Prime, Modelsim, CPUlator

CAD tools: Fusion 360, PrusaSlicer, Inkscape

Modelling: Unity

Familiar with Linux Ubuntu and Windows

Experience

Summer Research

May 2023 - Aug 2023

Utilizing Machine Learning Models for Water Vehicle Safety

Summer research project supervised by Professor Andreas Moshovos.

- Synthetic dataset generation using Unity
 - random scene generation and auto annotation
 - building realistic environment and effects
- Train object detection model YOLOv8
- Participate in conference Undergraduate Engineering Research Day (UnERD)

Software Engineer (Coop)

May 2022 - Aug 2022

UXSINO Software, Waterloo ON, remote.

- Database system designs based on PostgreSQL
- Learn database system structure
- Write C and bash scripts
- Design and plan for feature implementation, and design test cases for new functions

* ongoing

** winter semester

Projects

EngSci Thesis*

Sep 2023 - Apr 2024

Analyzing and Improving Atalanta, the Compression Technique for Quantized Deep Learning Neural Networks.

Year-long thesis project supervised by Andreas Moshovos

- Apply and evaluate Atalanta on more recent models
- Try optimizations to partially lossy
- Explore other compression techniques

ECE444 Software Engineering Project*

Sep 2023 - Nov 2023

Collaborative web-based software project: U of T Events Hub and Flyer Bulletin Board

- Follow software engineering project workflow
- Frontend and backend software implementation

CSC309 Programming on the Web Project

Jan 2023 - Apr 2023

Group web-based project: Restify Hotel/Condo Rental Booking Platform

- Django backend using REST framework
 - searching and sorting available rental properties
 - notification system
 - permission control
- REACT frontend
- UI/UX design using Bootstrap

ECE352 Computer Organization Project

Oct 2022 - Nov 2022

- Extends multicycle processor with vector instructions
- Modify data paths and controls for new instruction sets

Praxis Projects

Waste Management in Bangladesh Project

Jan 2022 - Apr 2022

- Target socioeconomic inequalities of waste collectors
- Design widgets using CAD
- Improve the design of waste management system

Powered-Wheelchair Improvement Project

Jan 2023 - Apr 2021

- Design to help power-wheelchair users pick up objects from ground
- Use the engineering design process to develop design proposals
- Build paper prototypes and models

ECE180 and ECE190 Programming AI Projects

Sep 2020 - Apr 2021

- Design AI algorithm for Gomoku and Ping Pong AI

* ongoing

** winter semester