

DORIS LAM

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EDUCATION

University of Waterloo

Sep 2024 – Present

Bachelor of Applied Science in Computer Engineering

Waterloo, Ontario

- Coursework: Fundamentals of Programming, Digital Circuits & Systems, Linear Circuits, Electricity & Magnetism
- Awards: Generation Google Scholarship, University of Waterloo President's Scholarship

SKILLS

Programming Languages: Python, Java, C, C++, JavaScript, TypeScript, HTML, CSS, Swift, Lean 4

Frameworks & Libraries: React.js, Node.js, Chart.js, Next.js, Flask, NumPy, Pandas, OpenCV, SwiftUI, GSAP

Tools: Git, Linux, Bash, VSCode, Xcode, Figma, Twine, Unity, Autodesk, SOLIDWORKS, Creo, STM32 Nucleo Board

EXPERIENCE

Full-Stack Computer Engineer

May 2025 – Present

HOPE Fertility & Reproductive Medicine Centre

Scarborough, Ontario

- Building and maintaining a full-stack virtual care platform for menopause and fertility using **React**, **Tailwind CSS**, **Flask**, and **MySQL**; developing secure, responsive features with PHIPA-compliant data handling
- Configuring and extending an **Ada-powered chatbot** by training it on curated menopause and fertility data, enabling accurate, conversational support for patient questions and improving health education and engagement
- Integrating **Python** and **OceanMD API** to enable personalized patient education, symptom tracking, and seamless booking, ensuring clinical accuracy and accessibility through collaboration with healthcare teams

Firmware Developer

Sep 2024 – Present

University of Waterloo Formula Electric

Waterloo, Ontario

- Developed custom Command-Line Interface (CLI) commands in **C** to seamlessly interface with the Power Distribution Unit (PDU), allowing for the efficient retrieval and modification of inverter parameters for reliability and scalability
- Implemented and tested fault-handling protocols to address high-voltage and electromagnetic state conditions, ensuring operational safety and system reliability by preventing unsafe inverter activation and potential hazards

PROJECTS

Snout | Go, Lingva Translate API

Jul 2025

- Designed and built “Snout,” a French-output interpreter in **Go**, implementing a complete **lexer**, **parser**, **AST evaluator**, and **REPL** to support custom syntax for variables, functions, arrays, hashes, and conditionals
- Integrated French string translation using a hybrid of the **Lingva Translate API** and manual dictionary fallback, localizing all program output (strings, errors, booleans, nulls) to enhance user immersion and language accessibility

CelebLearn | Python, FastAPI, Sync Labs Lip Sync API, OpenAI

Mar 2024

- Incorporated **Sync Labs Lip Sync API** for lip synchronization and **FastAPI** to integrate the front-end and back-end systems, powering an educational platform that delivers personalized lessons through simulated celebrity instructors
- Integrated **OpenAI** models to summarize PDFs, generate transcripts, extract key concepts and keywords, and design personalized quizzes, crafting an advanced learning platform that comprehensively assesses users' understanding

SignSpeak (uOttHack First Place) | JavaScript, HTML, CSS, React, Next.js, TensorFlow

Feb 2023

- Architected a **React** and **Next.js** front-end for a computer vision platform that teaches and evaluates sign language skills
- Created a sign recognition system using **TensorFlow** and **MediaPipe** to analyze hand gestures and compare them to predefined signs, offering an interactive, user-friendly platform that enhances accessibility for hearing-impaired learners

Comforix (JAMHacks First Place) | Python, HTML, CSS, C#, ASP.NET, Blazor, SQL

May 2022

- Built a full-stack web platform using **C#**, **ASP.NET**, **Blazor**, and **SQL**, allowing users to connect anonymously and support each other based on shared mental and physical health challenges while ensuring privacy and scalability
- Implemented a real-time chat system, integrating **APIs** and **SQL** to enable secure, reputation-based messaging, ensuring positive user interactions, enhancing community trust, and fostering a safe and supportive environment
- Led remote and in-person collaboration, effectively resolving **Git conflicts**, **SDK** installation issues, and deployment challenges, while ensuring smooth communication and coordination across a hybrid team environment

UAV Package Delivery System (Real World Design Challenge) | SOLIDWORKS, Creo

Nov 2021 – Apr 2022

- Directed a 5-person team to secure the **Canada National Second Place Award** by designing Nimbus, a vertical take-off UAS with a 20 kg payload capacity and 15 km delivery range, ensuring optimal performance and reliability
- Designed an emergency response system with parachute deployment, LED/siren alerts, and manual override for UAVs, reducing impact damage by **80%** and ensuring FAA safety compliance for enhanced operational reliability
- Utilized aerodynamic analysis to model and optimize airflow over the UAV's surfaces, achieving a **15%** drag reduction and a **10%** improvement in flight range through iterative design adjustments and simulation in **Creo** and **SOLIDWORKS**