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*

- Developed a full-stack, HIPAA-compliant telehealth platform for menopause care using **Next.js**, **TypeScript**, **Node.js**, and **MongoDB**, enabling secure patient onboarding, personalized treatment access, and provider communication
- Built a scalable video consultation and real-time chat platform using **Agora SDK**, optimizing low-latency streaming, connection reliability, and secure session management to enable seamless virtual patient-provider visits
- Implemented secure authentication using **JWT** and **Google OAuth**, and integrated Stripe payment processing to streamline membership management while maintaining strict data privacy compliance

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 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 (uOttaHack 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

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
- 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**