

# Xin Lei Lin

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## TECHNICAL SKILLS

**Languages Spoken:** French (Native), English (Native), Mandarin (Fluent), Spanish (Proficient)  
**Languages:** C/C++, Python, Dart, JavaScript, HTML/CSS, Java, SQL  
**ML Tools:** Tensorflow, OpenCV, MediaPipe, PyTorch, Pandas, Numpy, Matplotlib, HuggingFace, OpenAI  
**Other Tools:** Linux, Vim, Git, GitHub, Flutter, Flask, Django, React, Bootstrap, Postgres, VSCode

## EXPERIENCE

**KITE (University of Toronto)** February 2024 – Present  
*Research Intern* *Toronto, Ontario, CA*

- Improving current architectures for pose-detection using Video Swin Vision Transformers with Professor B. Taati.

**DIRO (Université de Montréal) and Regeneron ISEF** October 2022 – September 2023  
*Research Intern* *Dallas, Texas and Montreal, Quebec*

- Computer vision research** to translate American Sign Language to English with Professor H. Sahraoui
- Represented **Team Canada** for the **International Science and Engineering Fair 2023** (\$15000+ in awards).
- Data Analysis and Webscraping in Python and C++. Computer vision with OpenCV, Tensorflow and MediaPipe.
- Presented 5 models (**LSTM, DNNs, CNNs, RNN, fine-tuned ResNet**) to translate **25 gestures**.
- Performed data augmentation (**x128**) to obtain the largest dataset for ASL in the world with C++ and Numpy.
- [ISEF Project Board](#) [GitHub](#) [Demo Video](#)

**Haute Tech Orientale** May 2022 – September 2022  
*Frontend Developer* *Montreal, Quebec, CA*

- Designed the website's wireframe through Figma. Wrote product descriptions in French and English.
- Deployed <https://hautetechorientale.com> using JavaScript, HTML and CSS with Bootstrap.

## NOTABLE PROJECTS

**Red Handed – MakeUofT (2<sup>nd</sup> for Qualcomm and Flow (\$1200))** February 2024

- Integrated 3 computer vision models to detect drowsiness (Tensorflow, MediaPipe & OpenCV – 95% accuracy).
- 3D printed design of slapping machine that adjusts to nose height & decentralized rewards with Flow. [Devpost](#)

**Re.Live – UofTHacks 11 (Cohere 1<sup>st</sup> Prize (\$1500))** January 2024

- Implemented a **Stable Diffusion** model with OpenPose to transposes dance moves onto people in static images!
- Integrated **Cohere RAG** to search songs based on the user's mood. Frontend in React. [Devpost](#)

**SpaCey – UTRA (Best use of Flow & Starknet (\$1000))** January 2024

- Implemented ML model to control a bluetooth rover & a decentralized cryptocurrency for task distribution.
- MediaPipe for hand-tracking (96% accuracy for 150 epochs – 2 dropout layers + 3 feed-forward layers). [Devpost](#)

**DriveSense – HackTheNorth (Winning Finalist Project)** September 2023

- Developed a **mobile app** to assess driving quality GPS data and speed fluctuation (React Native & Django).
- Fine-tuned 3 computer vision models for car plates, traffic lights and road signs (YOLOv6 & PyTorch). [Devpost](#)

**AIBERT – Science Fair (\$1000 in various awards)** September 2021 – May 2022

- Natural Language Processing (BERT, Naive Bayes & LSTM) with 10000 messages for bilingual spam detection.
- Implemented PostgreSQL database (1 million numbers), Flutter mobile app & Flask backend. [Github](#)

## EDUCATION

**University of Toronto – St-George (Trinity College)** Toronto, Ontario, CA  
*Bachelor of Science in Computer Science, and Molecular Genetics – CGPA 3.94* *Aug. 2023 – May 2027*

- Notable awards: **C. David Naylor Scholarship** (\$20000) & **Arts and Science Scholar** (\$7500)

**Collège Jean-de-Brébeuf & Marianopolis College** Montreal, Quebec, CA  
*International Baccalaureate & Honours Pure and Applied Science* *Aug 2017 – May 2023*

- Extra-curriculars: **5-time re-elected president** of student council, **2-time editor-in-chief** (40 writers & 160 pages), and **Vice-President/organizer of 3 hackathons** (800+ participants).