



# Xin Lei Lin

Computer Science and Molecular Genetics  
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Spoken Languages : English, French, Spanish and Mandarin

<Linux and Vim user>

## AWARDS

- **University of Toronto - C. David Naylor Scholarship** \$20 000 and Arts and Science Scholar \$7500
- More than \$16 000 in **Science Fair Wins** + participation at the **International Science and Engineering Fair**
  - o Includes Fair WINNER and other medals (2x), Hydro-Quebec Top Prize, Ministry of Economy, Innovation and Technology prize, IEEE Award Best Project in IT, OCTAS Cegep award, and many more
- **Leadership award** at Collège Jean-de-Brébeuf (\$1000 in total awards) for contribution as **five-time elected president** of student council, and **editor-in-chief of 2 newspapers** (40 writers - 160 pages total)
- (deferred) UWaterloo President's Entrance scholarship for **Software Engineering** (\$2000)

## EXPERIENCE (click on [Project Titles](#) > to learn more!)

**Visiting Research Intern** @Université de Montréal w/ Prof. Sahraoui *Summer 2023 –*

- Continuation of the research project [Artificial Sign Language](#).

[Artificial Sign Language >](#) (\$15 000 in cumulated awards) *November 2022 to May 2023 –*  
(Regeneron International Science and Engineering Fair – Dallas, Texas)

- American Sign Language to English Translation. **Deep learning** models tested include **Dense Neural Networks, CNNs**, transfer learning with **YOLO, ResNet, and RNNs with Tensorflow**.
- (web scraping) Analyzed and extracted more than 1000 hand signs and 30gb of online tutorials with BeautifulSoup and C++. **Detection of hand position and encoding into skeleton** with **Pandas, Numpy, OpenCV** and **MediaPipe**, and augmented the data with novel algorithms by a factor of 128x.

[Access our GitHub Repository >](#) **Demo video:** <https://youtu.be/9RO7bgk-Waw?t=100>

**Frontend Developer** @Haute Tech Orientale [hautetechorientale.com >](http://hautetechorientale.com) *Summer 2022 –*

- Designed and deployed from scratch the company's website using JS, HTML and CSS.

**Competitive Programming Tutor and Vice-President at BrébeufHx and MariHacks >**

- Taught C++ and Python for DS & A to 20 students + Organized 3 hackathons, more than 400 participants.

## PROJECTS (click on [Project Titles](#) > to learn more!)

[Hack The North 2023 - DriveSense \(Winner Project\) >](#) *September 2023 –*

- Fine-tuning **YOLOv5** and **YOLOv8** with **PyTorch** for car plate detection, traffic light colors and road signs (implementation of 3 different machine learning models in 24 hours, with a backend in **Django on Repl.it**).
- Car speed detection w/ GPS data on mobile app (**React**). Secondary frontend with **Streamlit**.

[Access our GitHub Repository >](#)

[Classif.ai >](#) *June 2023 –*

- **Hugging face LLMs** to summarize large transcripts of voice recordings, school notes and live recordings into Flash Cards. Front-end and flash cards interface w/ **React**. [Access our GitHub Repository >](#)

[XCHANGE >](#) (ConUHacks VII) *January 2023 –*

- Animating banking data through **React, HTML, and CSS**. Data analysis through **C++**. Usage of **density estimation** (unsupervised learning) for **anomaly detection** in banking database.

[AIBERT >](#) (Super Expo-sciences) (more than \$1000 dollars in awards) *September 2021 to May 2022 –*

- **LSTM, Naïve Bayes Classifier** and **BERT** to detect spam messages and calls. Mobile development with **Flutter and Dart**. SpeechRecognition in Python, and in Flutter. **Flask** backend on Repl.it.