

# Xin Lei Lin

(438) 765-4255 | [xinlei.lin@mail.utoronto.ca](mailto:xinlei.lin@mail.utoronto.ca) | [linkedin.com/in/xin-lei-lin-024230217/](https://www.linkedin.com/in/xin-lei-lin-024230217/) | [github.com/xinlei55555](https://github.com/xinlei55555)

## EDUCATION

- University of Toronto – St-George, affiliated with Trinity College** Toronto, Ontario, CA  
*Bachelor of Science in Computer Science, and Molecular Genetics* Aug. 2023 – May 2027
- Awards: C. David Naylor Scholarship: for a first-year student with **oustanding leadership**. (20000\$)
  - Arts and Science Scholar: for students who have maintained **high academic standing**. (7500\$)
- Collège Jean-de-Brébeuf (Secondary), and Marianopolis College (CÉGEP)** Montreal, Quebec, CA  
*International Baccalaureate, and Honours Pure and Applied Science* Aug 2017 – May 2023
- Awards: **International Science and Engineering Fair** (cumumlated 16000\$ over 3 years)  
*Includes: Science Fair winner and other medals (2x), Hydro-Quebec Top Prize for Science Fair, Ministry of Economy, Innovation and Technology prize, IEEE Best Project in IT, OCTAS Cegep award in IT, and other*
  - Leadership Award** for contribution as **5-time elected in student council and president**, editor-in-chief of 2 newspapers (40 writers – 160 pages), and Vice-President/organizer of 3 hackathons (combined 600 participants)

## EXPERIENCE

- Visiting Research Assistant** May 2023 – September 2023  
*Université de Montréal - Département d'informatique et de recherche opérationnelle* Montreal, Quebec, CA
- Continuation of the research project Artificial Sign Language, with Professor Sahraoui.
- Artificial Sign Language** [Click to Visit the Project Board!](#) November 2022 – May 2023  
*Regeneron International Science and Engineering Fair – More than 15000\$ in cumulated awards!* Dallas, Texas, US
- Trained various deep learning models (including Dense Neural Networks, CNNs, transfer learning w/ YOLO + ResNet, and LSTM w/ Tensorflow) to translate American Sign Language to English.
  - Implemented an algorithm to detect and encode body signs into skeleton (with OpenCV and MediaPipe). Performed data augmentation (**by a factor of x128**) (with C++, Numpy and Pandas).
  - Webscraping tutorials of American Sign Language (using BeautifulSoup and C++) to extract 1000 hand signs (**30 gb of videos**, treated w/ OpenCV, Numpy and C++)! [Visit the GitHub Repo!](#) [Demo Video \(in French\)!](#)
- Software Engineer** May 2022 – September 2022  
*HauteTechOrientale* [Visit the company website!](#) Montreal, Quebec, CA
- Designed and deployed from scratch the company's website using JavaScript, HTML and CSS with Bootstrap.
- Competitive Programming Tutor** [View the first tutorial \(in French\)!](#) January 2022 – February 2023  
Taught C++ and Python through 5 online tutorials (2 hours) and in-person sessions w/ 25 students and 300 views!

## PROJECTS

- HackTheNorth 2023 – DriveSense (Finalist Project)** | *PyTorch, React Native, Streamlit* September 2023
- Fine-tuned YOLOv5 and YOLOv8 with PyTorch for 3 computer vision models (1) car plate detection, (2) traffic light colours, and (3) road sign detection. Implemented a backend with Django, hosted on Repl.it.
  - Developed a novel car speed algorithm detection with Computer vision, based on the size of the car plate, correlated with GPS data from a React mobile app. Secondary frontend with Streamlit. [Visit Project Board!](#)
- Classif.ai – STEMistHacks** | *React, HuggingFace LLMs* [Visit the Project Board!](#) June 2023
- Fine-tuned HuggingFace LLMs to summarize voice recordings, school notes, and live recordings into Flash Cards.
- XCHANGE – ConUHacks** | *C++, Anomaly Detection* January 2023
- Animated banking data through React, HTML, and CSS. Data analysis and summarization through C++. Usage of density estimation (unsupervised learning) for anomaly detection in banking database. [Visit the Github Repo!](#)
- AIBERT – Science Fair** (1000\$ in awards!) January 2023
- LSTM, Naive Bayes Classifier and BERT to detect spam messages and calls. Mobile dev w/ Flutter. Speech Recognition w/ Python. Flask as REST API on Repl.it. [Visit the Github Repo!](#)

## TECHNICAL SKILLS

**Languages and Libraries:** C++, Python (Jupyter, Tensorflow, OpenCV, MediaPipe, PyTorch, Pandas, Numpy, Matplotlib, HuggingFace), Dart, JavaScript, HTML/CSS, Java

**Frameworks and Tools:** Linux, Vim, Git, VS Code, Visual Studio, Flutter, Flask, Django, React, Bootstrap