Xin Lei Lin

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TECHNICAL SKILLS

Languages: C/C++, Python, Dart, JavaScript, HTML/CSS, Java, SQL
Libraries: Tensorflow, OpenCV, MediaPipe, PyTorch, Pandas, Numpy, MatPlotLib
Tools: Linux, Vim, Git, GitHub, Flutter, Flask, DJango, React, Bootstrap, Postgres, VSCode, HuggingFace, OpenAI

EXPERIENCE

KITE (University of Toronto) — February 2024 – Present
Research Intern — *Toronto, Ontario, CA*
- Using Video Swin vision transformers for video pose detection with Professor B. Taati.

DIRO (Université de Montréal) and Regeneron ISEF — October 2022 – September 2023
Research Intern — *Dallas, Texas and Montreal, Quebec*
- **1 of 8 teams** on Team Canada for ISEF 2023 – **$15000+ in awards**
- **Computer vision research** to translate American Sign Language to English with Professor H. Sahraoui
- 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 (2nd 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^{rst} 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).