Jordan Lau

jordanxlau@yahoo.ca | (647) 563-9689

www.jordanxlau.github.io | github.com/jordanxlau | linkedin.com/in/jordanxlau/

Education

University of Ottawa   September 2021 - Present
Honours Bachelor of Science in Computer Science and Minor in Linguistics.
- CGPA of 9.74 (10-point scale).

Work Experience

National Research Council of Canada (NRC)   May 2025 - Present
Machine Learning Developer Intern
- Developed and evaluated features for an open-source **PyTorch Lightning** Text-To-Speech Toolkit, geared towards under-resourced languages.
- Trained models on cloud-based GPU clusters, scheduling jobs with **Slurm** and tracking progress with **TensorBoard**.
- Tracked tasks, reviewed code and performed PRs on **GitHub**, maintaining clean **Git** workflow.

Finance Canada   May 2024 - August 2024
Software Developer Intern
- Independently identified issues, created tickets in **Azure DevOps**, developed solutions in **JavaScript** with **Vue.js**, validated solutions against business requirements and submitted **Git** PRs.
- Designed improved code snippet copy buttons that help the user identify exactly what code they are copying, using the **TailWindCSS** and UX principle of "mapping."
- Developed support for PDF file types, including research on best code libraries.
- Assisted clients in Agile sprints to prompt-engineer personalised assistants on LLM application.

Department of National Defence   September 2023 - December 2023
Software Developer Intern
- Researched antivirus software providers, software versions and processes to develop analytics in **Python** for the Government's Threat Surface dashboard.
- Wrote to and queried **MongoDB** database using CLI and Atlas.

uOttawa Engineering Outreach   May 2023 - August 2023
Bilingual Instructor
- Led STEM camps and developed activities. Topics included **JavaScript** and **Python**.

Skills

- Programming (**Python**, **Java**, **JavaScript, C++**, **C**, **Go** and **R**).
- Machine Learning (**Keras, PyTorch, TensorFlow**, **Pandas**, **HuggingFace** and **Jupyter Notebooks**).
- Databasing (**SQL**, **PostgreSQL**, and **MongoDB**).
- Software Development (**Bash Scripting, Slurm, VSCode**, **Azure DevOps**, **Vim, Git** and **GitHub**).
- Comfortable in French (B2 proficiency on CEFR scale).
- Excellent communication and teamwork skills.

Projects

Machine Translation for Different Language Pairs
- Trained Sequence-to-Sequence Transformers in 3 language pairs using **Keras**.
- Evaluated the performance using BLEU scoring.

Hand Gesture Detection
- Trained Neural Network with **Keras** on more than 145,000 images of hands from HaGRID (a varied open source dataset) to classify 29 gestures.
- Preprocesses data using **Google AI**'s Mediapipe Hand Landmarking.
- Performs live hand detection and prediction via webcam using **OpenCV**.
- Source code written in **Python**, with **Pandas**, **NumPy** and **SKLearn** libraries.
- Achieved 85 to 90% accuracy on the validation dataset.

Google vs DeepL Experiment
- Self-directed experiment comparing the difference in translations done by Google Translate API with DeepL API for a large English to French dataset. Early results show that the services are highly similar.
- Uses two metrics: modified version of Levenshtein Distance and METEOR, which I have implemented in **C++** to improve speed on large texts. Text is pre-tokenized (with the **HuggingFace** transformers library) for better accuracy.
- Written in **Python** using **NumPy**, **Pandas** and **MatPlotLib**.
- Contains unit tests using **Python**'s native test library, which run on push using **GitHub Actions**.

Personal Website
- Personal website to showcase myself as a student, tutor and programmer.
- Written with **React** in **JavaScript**. Hosted with **GitHub** Pages.
- Improved usability by studying feedback from a variety of users.

Awards

Canadian Hearing Services   August 2021 and August 2023
National Scholarship
- Valued at $3000 per year. Declined in 2023 in order to accept an internship.