

IRENE XIANGYI CHEN

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Canadian Citizen eligible for J1/TN Visa

Skills: Python, C / C++, TensorFlow / Keras, PyTorch, SQL, Go (Golang), Docker, Java, Bash, MATLAB, Git

Hobbies: Taekwondo (Black Belt II), Aerial Arts, Blogging, Mentorship

EXPERIENCE

Facebook AI

Software Engineer Intern · AI Integrity Team (FAIAR)

Jan 2021 - April 2021

Remote / Menlo Park, CA

- Designed, implemented and benchmarked multi-modal **candidate pooling** solutions on production-relevant cases
- Achieved **+22% constrained relative recall** lift with multi-modal signals on partner team's dataset/solution
- Enhanced weak uni-modal signals with parametric machine learning models, resulting in a **+5% top-1** accuracy lift
- Integrated multi-armed bandit adaptive pooling solutions in **Python** into an internal similarity experiment platform
- Performed headroom analysis with a dynamic programming oracle algorithm (~15% top-1 accuracy headroom)

Cloudflare

Software Engineer Intern · Bot Mitigation Team

June 2020 - Sept 2020

Remote / San Francisco, CA

- Mitigated malicious web bots using **gradient-boosted decision trees** at scale, trained on data from column-oriented ClickHouse **SQL** queries using **Python / Yandex CatBoost** in **Docker** environments
- Architected and built a reinforcement learning system (**DQN**) with OpenAI **Gym** for self-adjusting behaviour; automated the update of degraded models from ~67% to 99% validation accuracy
- Eliminated ~10h of model manual retraining per version update with reinforcement learning design

DarwinAI

Deep Learning Developer Intern · Professional Services Team

Sept 2019 - Dec 2019

Waterloo, ON

- Accelerated POC workflow by **+40%** — designed and developed a model/dataset mix-and-match software system using **Python / TensorFlow** by leveraging pre-built models for cross-functional team usage
- Implemented a plug-and-play **ResNet50 Faster R-CNN** POC model: achieved **15-fold** model size reduction with **<1%** accuracy drop, directly reduced customer pain points towards closing enterprise license deal
- Merged **VGG-10** feature extractor with **YOLOv3** into a new model, and reduced train time with weight transfers

Wind River

Cloud Infrastructure Developer Intern · Titanium Cloud Team

Jan 2019 - Apr 2019

Ottawa, ON

- Built and deployed new OS-specific vulnerability scanning **Go (golang)** modules with **+230%** accuracy improvements
- Automated network configuration and deployment of a private cloud **Docker** registry with **Bash** scripts

Sensors & Software Inc.

Software Developer Intern · Applications Team

Apr 2018 - Aug 2018

Mississauga, ON

- Increased georadar computation speed by **250%** by developing and extending **Python** modules to **C / C++**
- Leveraged a **TensorFlow** CNN model (**88%** accuracy) for hyperbola detection on non-conventional wave dataset

PROJECTS

REFER TO GITHUB

GitHub/Source Code Similarity Recommender · Capstone Project

Jan 2021 (Ongoing)

Mole-croscope · CNN mole classifier (CuHacking 2019 2nd place, Innovapost Challenge winner)

Feb 2019

EDUCATION

University of Waterloo, Bachelor of Software Engineering, Honours

Sept 2017 - Apr 2022

- Fall 2020 Term Distinction
- **Awards:** Sandford Fleming Foundation Award (2020)
University of Waterloo President's Scholarship (2018)