

ANDRE FU

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University of Toronto, BAsC Engineering Science (Machine Intelligence)

April 2022

EXPERIENCE

Twitch

Machine Learning Engineer, Recommendations

San Francisco, CA

June 2022 - Present

- Deployed new recommendation system, leading to an increase in watch-time of **13%** on new and **9%** on logged-in users
- Developed & Launched a co-view similarity models for mobile discovery, **increasing engagement by 20%**

Microsoft

Product Management Intern (Core Search)

Remote Redmond, WA

May 2021 - July 2021

- Spearheaded consumer-facing content curation pipeline to link sparse entities using C#
- Designed & built internal tools to reduce test-to-implementation latency in **React & Typescript**
- Executed & implemented a **\$200k USD** content list generation feature, over-achieving user targets by **2x** while using **1%** of cost

Microsoft

Software Engineering Intern (Bing Knowledge Graph)

Remote Bellevue, WA

May 2020 - August 2020

- Identified, proposed & designed a novel sport-city association feature to link >5k entities in Bing's knowledge graph
- Designed backend pipeline to rank entities from a graph to a custom front end in < **150ms** bridging a gap in Bing's knowledge graph affecting **>1M monthly users**

Interac

Software Engineering Intern (Core e-Transfer & Debit)

Toronto, ON

May 2019 - August 2019

- Designed and implemented a novel REST Notification Server to deliver **real-time** push notifications to a mobile app using a webhook through NestJS and PostgreSQL
- Architected an alternative mobile debit payment platform expected to save small businesses an estimated **\$10M per year**

University of Toronto, Multimedia Lab

Undergraduate Deep Learning Researcher (Efficient Neural Architectures)

Remote Toronto, ON

August 2020 - Present

- Improved State-of-the-art Neural Architecture Search (DARTS) by up to **7.14% top-1 increase** and maintain a **3.88x reduction** in Parameter cost on ResNet
- Designed and optimized a Channel size selection algorithm, broadly applicable to any hand-crafted network demonstrating performance increase at comparable parameter cost

SKILLS

Languages:

Python · Typescript · C# · Bash · MATLAB · C

Tools & Technologies:

Git · Unix · Docker · PostgreSQL · MongoDB · Angular · Android SDK

Machine Learning:

PyTorch · Tensorflow · scikit-learn · scikit-image · NumPy · Pandas

SELECT FIRST AUTHOR PUBLICATIONS | [GSCHOLAR](#)

"Reconsidering CO2 emissions from Computer Vision", CVPR RCV 2021

"CONet: Channel Optimization for Convolutional Neural Networks", ICCV NeurArch 2021

"NoFADE: Analyzing Diminishing Returns on compute investment", NeurIPS Climate Change 2021

NOTABLE PROJECTS

[Uniquely-Yours](#) | PyTorch, Flask, React, Heroku

Built & Launched a GAN-powered art generation service; Generate playlist covers for Spotify

[Multi-threaded Webserver](#) | C

Used popular techniques like LRU caching and multithreading to built a webserver

[Seedling](#) | Python

Developed a package on PyPi for novice Synthetic Biologists to use deep learning packages