

Danny Wu

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Skills

Languages Python • JavaScript • TypeScript • C# • C++ • C • Java • Kotlin • SQL • HTML/CSS
Technologies Flask • Node • Express • ASP.NET Core • Hibernate • React/Redux • Angular • Docker • JUnit • Jest

Experience

Faire

Waterloo, Ontario

SOFTWARE ENGINEERING - BACKEND

Jan 2023 - April 2023

- Developed **Kotlin API** to invalidate faulty table entries in **distributed MySQL** databases using **AWS SQS** for batch processing of large CSV inputs
- Rewrote **Hibernate queries** and optimized **SQL indexes**, improving query performance by **28%** for data accessed over **14 million times daily**
- Wrote **email compilers** to build emails using a **layered architecture** and **gRPC calls**, delivering over **300k emails monthly** through **Postmark**

IBM Extreme Blue

Markham, Ontario

TECHNICAL INTERN - MICROSERVICES

May 2022 - August 2022

- Prototyped an AI tool enhancing IBM's **Mono2Micro** to define **architecturally solid APIs**, simplifying modernisation of monolithic applications
- Developed **codebase analysis algorithm** in **Python** and built pipeline to generate API definitions from static analysis of **any Java application**
- Rendered analysis as a **Swagger-like blueprint** in **React**, recommending transformed microservice APIs with **high explainability** to developers
- Pitched solution to **20 IBM executives** and multiple business units, cultivating **public speaking skills** in presenting live to **over 300 people**

Smart & Biggar

Ottawa, Ontario (Remote)

SOFTWARE DEVELOPER - IT

September 2021 - December 2021

- Trained a multiclass **ML classification model** for **10 categories** with **95% precision** using the **spaCy NLP** library in **Python** on extracted emails
- Built an automation process in **C#** to keep **SQL** database consistent with DayForce HCM employee information by **concurrent HTTP requests**

Smart & Biggar

Ottawa, Ontario (Remote)

SOFTWARE DEVELOPER - FULLSTACK

January 2021 - April 2021

- Developed a **widget dashboard** framework from scratch in **ASP.NET Core** for a web portal landing page using the **MVC design pattern**
- Built an **ASP.NET Core Web API** to manage dashboard data using **CRUD** operations on **SQL Server** with **Dapper ORM** and stored procedures
- Implemented **UiPath RPA** to automate manual tasks including scraping data, converting emails to PDF, and sorting 1000+ emails daily

University of Waterloo

Waterloo, Ontario (Remote)

SOFTWARE ENGINEERING - MOBILE

June 2020 - August 2020

- Created a **React Native** app to connect Waterloo students in-person through activities pertaining to COVID guidelines
- Implemented user group chat messaging between activity members using **Firestore Realtime Database**, handling 30+ concurrent users

Projects

Things2Do

[HTTPS://GITHUB.COM/DANNYWUWU/THINGS2DO](https://github.com/dannywuwu/things2do)

January 2023

- Created a **day trip planner** in **React** and **Express** to algorithmically generate a trip itinerary based on user preferences, **winner at DeltaHacks9**
- Integrated **Yelp location data** with **geocoding** and **OpenStreetMap routing** to determine the best places to visit during the given time period
- Minted NFTs** with **Verbwire** by generating images that utilise location photos from the recommended itinerary, showcased on the frontend

Picture Police

[GITHUB.COM/DANNYWUWU/PICTURE-POLICE](https://github.com/dannywuwu/picture-police)

September 2021

- Built a bot with **Discord.py** which analyzes and censors explicit images and profanity using a **Flask** server hosted on **Google App Engine**
- Integrated **Google Cloud Vision OCR** with image classification library and **Python PIL** to modify and replace unacceptable image content
- Combined above with **NLTK sentiment analysis** and custom profanity checking to produce a safety rating based on both text and image

Aang

[GITHUB.COM/DANNYWUWU/AANG](https://github.com/dannywuwu/aang)

January 2021

- Built a **React** web application styled with **Chakra UI** that tracks user body posture in **real-time** using their webcam at Hack the North 2020++
- Used **Tensorflow's Posenet ML model** to retrieve pose data from video feed, calibrating initial posture for use **with any camera/position**

Education

University of Waterloo

Waterloo, Ontario

CANDIDATE FOR BACHELOR OF SOFTWARE ENGINEERING (CO-OP)

September 2019 - April 2024

- President's Scholarship of Distinction, Purdy Crawford Entrance Scholarship for Academic Achievement
- UW Software Engineering Society - Executive VP Events, Waterloo Engineering Student Ambassador
- Relevant Courses: CS341 (Algorithms) • CS343 (Concurrent Programming) • ECE358 (Computer Networks) • SE350 (Operating Systems)

Royal Conservatory of Music

Toronto, Ontario

ARCT DIPLOMA IN PIANO PERFORMANCE: FIRST CLASS HONOURS

August 2019