

# Hans Wang

📞 1(647)-447-8128 | ✉️ hanswang0168@gmail.com | 🌐 hanswang0608 | 📄 hansw0168

## SKILLS

**Languages** Python · MATLAB · C/C++ · Java · C# · Rust · Verilog · Assembly · Javascript · HTML/CSS · Dart · Scala · VHDL  
**Technologies** PyTorch · Scikit-learn · Numpy · Pandas · OpenCV · CUDA · Matplotlib · Seaborn · SymPy  
**Tools** Jupyter Notebook · Google Colab · Git · Jira · VSCode · Unix · Docker · VIM · SSH

## WORK EXPERIENCE

### Versa Networks

Santa Clara, CA

#### NETWORK ENGINEER

May 2022—Apr 2023

- Achieved 3x higher throughput in threat detection pipeline by parallelization and hardware offloading using C, DPDK
- Developed a suite of internal testing software and CLI tools in C for product validation, boosting team productivity
- Authored Python programs for RegEx analysis and enhancement of threat signatures, improving detection rate by 50%
- Defined various packet processing pipelines and implemented them through NVIDIA DOCA and Morpheus SDKs
- Increased operating efficiency 2x by introducing a gRPC application to configure remote data processing units

### CSC Venture Studio

Toronto, ON

#### FULLSTACK DEVELOPER

Sep—Dec 2021

- Created a novel PC sharing platform capable of high performance game streaming, with Electron, React, and Moonlight
- Conceived patent-pending, 90% accurate personality test algorithm and implemented it in a wellness app using Flutter
- Built an event ticketing web app to connect sports enthusiasts with local facilities, in React, TypeScript, and Firebase

### DragonAgile Inc.

Waterloo, ON

#### MOBILE DEVELOPER

Jan—May 2021

- Led development of proof-of-concept social media app and delivered functional prototype 1 month ahead of schedule
- Composed a modern UI with Flutter and constructed a scalable backend using Google Firebase, AWS, and various APIs
- Gained sound knowledge of team agile development practices working with Git, Jira, and Confluence

## PROJECTS

### AutoHelm

#### CAPSTONE PROJECT

Apr 2023—Present

- Engineered an automation software for Windows, in C# and Python, for the creation and automation of desktop actions
- Designed an LL(1) custom programming language to capture automatable actions in a platform-agnostic manner
- Wrote a compiler for the custom language to generate executable Windows programs to perform automation via AHK

### Geometry Dash AI

Oct—Nov 2023

- Developed a ML library in Java that implements multilayer perceptron neural networks and genetic algorithm training
- Trained AI agents to play a remake of videogame “Geometry Dash” at near human-level, using this library

### PCPair

Jun—Dec 2020

- Launched a website that helps users save up to 33% of costs by computing the optimal PC build for any price
- Implemented a Node.js backend with ExpressJS to serve static files and handle HTTP traffic through a REST API
- Automated a web scraper with Puppeteer to collect hardware performance and pricing data and store in MongoDB

## EDUCATION

### University of Waterloo

3.9 GPA

#### BACHELOR OF COMPUTER ENGINEERING

Sep 2019—Apr 2024

- *Autonomous Vehicles (ECE 495)* ML and deep learning, computer vision, object detection, path planning, vehicle control
- *Machine Learning (MSCI 446)* Un/Supervised learning, regression, classification, data processing, neural networks
- *Adaptive Algorithms (ECE 457A)* Search methods, metaheuristics, genetic algorithms, ant-colony, particle swarm
- *Other Relevant Courses* Probability and Statistics, Numerical Methods, Algorithms and Data Structures