

Houfu Chen

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Summary

- Machine Learning Engineer with teaching experience in AI and Python, plus extensive QA background in performance testing, automation, and network diagnostics.
- Skilled in compatibility and performance testing methodologies including BDD/TDD.
- Recognized as Featured Alumni in UofT’s Master of Engineering - ML & Analytics Emphasis program (reference).

Work Experience

Complaints Management Internal Consulting (Intern) <i>FAW-Volkswagen Automotive Co., Ltd.</i>	05/2025 – 07/2025 <i>Changchun, China</i>
<ul style="list-style-type: none">Led the escalation and resolution of high-risk customer complaints by coordinating across 4S dealerships and internal departments; ensured fair outcomes and minimized legal exposure.Analyzed case logic and supporting evidence to determine liability and construct reasoned responses aligned with legal and procedural standards. Developed and maintained QBI Kanban dashboards to track complaint trends.	
Teaching Assistant (Machine Learning & Python) <i>University of Toronto</i>	01/2024 – 04/2025 <i>Toronto, ON</i>
<ul style="list-style-type: none">Led machine learning lab sessions and provided guidance on core ML topics including classification, regression, clustering, and evaluation techniques.Assisted students with coursework, debugging, and conceptual understanding through office hours and online forums.	
WiFi Software Testing Engineer (Intern) <i>Ford Motor Company Of Canada Limited</i>	05/2022 - 08/2022 <i>Oakville, ON</i>
<ul style="list-style-type: none">Tested ECU components (SYNC and TCU) using iperf3 under various protocols (TCP/UDP/FTP/HTTP), scenarios (small files, large files, combined), frequencies (2.4GHz/5GHz), and security levels (Open/WPA2).Set up a client-server testing environment via Remote Desktop and Ubuntu to execute performance tests.Resolved 40+ SSH exceptions by upgrading Ubuntu and iperf3 and adjusting WLAN commands.Authored comprehensive documentation on Ubuntu usage, iperf3 procedures, and troubleshooting for SSH and Selenium.	
QA Developer / Automation Specialist (Intern) <i>Manulife, Teranet Inc., and Imagine Communications</i>	Three Internships: 01/2020 – 04/2021 <i>Waterloo & Mississauga, ON</i>
<ul style="list-style-type: none">Designed and implemented automated test cases using JavaScript, React, and C# within Selenium to ensure UI and system stability across web platforms.Improved test efficiency by adopting BDD/TDD, resolving over 40 SonarQube issues, raising test coverage by 20%.Built scripts to monitor server health and simulate user interactions; ensured UI accessibility by verifying visibility rules for disabled elements.Presented QA insights & defect analysis to 50+ stakeholders, contributing to cross-team coordination & issue resolution.	

Projects

FoodRacoon – Public ML-Powered Restaurant Recommender [Live Deployment] <i>LLM + MLOps Deployment; Machine Learning Engineer</i>	04/2025 <i>GitHub</i>
<ul style="list-style-type: none">Developed & deployed a user-facing ML tool that interprets natural food cravings (in English/Chinese) into restaurant recommendations using GPT-4.Integrated Yelp and Google Maps APIs to generate and rank real-time location-based recommendations.Built a customizable scoring system enabling users to adjust weights (rating, price, review count) in advanced mode.Implemented a serverless backend with AWS Lambda, API Gateway, and OpenAI integration.<i>Note: Currently using Yelp/Google Maps APIs; Dianping API planned for Mainland China support.</i>	
AI Emotion Analysis System for People in Videos <i>MLOps Implementation; Associate Machine Learning Engineer</i>	03/2025 <i>GitHub</i>
<ul style="list-style-type: none">Innovated end-to-end ML pipeline for facial analysis using DeepFace and MediaPipe with automated deployment.Created & deployed model endpoints for consistent contextual scene analysis and emotion correlation with high accuracy.Implemented ML model monitoring and versioning system with real-time performance metrics.	
Emergency Route Planner Framework <i>ML Pipeline Development; Machine Learning Engineer</i>	09/2024 – Present <i>Toronto, ON</i>
<ul style="list-style-type: none">Built production-ready evacuation routing system using ML algorithms and LLM-based decision-making.Implemented ML infrastructure with agent-based simulations (OctoTools) and optimization tools.Developed CI/CD pipeline for continuous model improvement and deployment.	
Other ML Personal Projects <i>MLOps and Model Deployment; Machine Learning Engineer</i>	2024 - 2025 <i>GitHub</i>
<ul style="list-style-type: none">Reinforcement Learning (2024): Designed and deployed RL agent with monitoring and performance metrics.Financial Tool (2024): Built and operationalized LLM-powered financial service analysis tool.	

Skills

Programming Languages: Python, SQL, C/C++, C#, JavaScript
Testing & QA: Selenium, iperf3, Charles Proxy, BDD/TDD, Performance Testing, SonarQube, API Testing
ML/AI: TensorFlow, PyTorch, Scikit-learn, LLMs, DeepFace, Feature Engineering, Neural Networks
DevOps & Infrastructure: AWS Lambda, API Gateway, Git, Docker, Kubernetes, Linux/Ubuntu, Azure, TCP/IP Networking
Data Engineering: Pandas, NumPy, Model Monitoring, Data Visualization

Education

University of Toronto (Graduated in 03/2025)	Master of Engineering in Electrical & Computer Engineering
University of Waterloo (Graduated in 06/2023)	Bachelor of Applied Science in Nanotechnology Engineering

Certifications

University of California, Davis - SQL for Data Science(03/2025)
Stanford & DeepLearning.AI - Machine Learning Specialization (03/2025)
Stanford Algorithm & Data Structures Certification (01/2025)
Euclid Mathematics Contest Top 25% in Canada, Top 1 in High School (04/2018)