

# 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

<b>Complaints Management &amp; Internal Consulting (Intern)</b> <i>FAW-Volkswagen Automotive Co., Ltd.</i>	05/2025 – 07/2025 <i>Changchun, China</i>
<ul style="list-style-type: none"><li>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.</li><li>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.</li></ul>	
<b>Teaching Assistant (Machine Learning &amp; Python)</b> <i>University of Toronto</i>	01/2024 – 04/2025 <i>Toronto, ON</i>
<ul style="list-style-type: none"><li>Led machine learning lab sessions and provided guidance on core ML topics including classification, regression, clustering, and evaluation techniques.</li><li>Assisted students with coursework, debugging, and conceptual understanding through office hours and online forums.</li></ul>	
<b>WiFi Software Testing Engineer (Intern)</b> <i>Ford Motor Company Of Canada Limited</i>	05/2022 - 08/2022 <i>Oakville, ON</i>
<ul style="list-style-type: none"><li>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).</li><li>Set up a client-server testing environment via Remote Desktop and Ubuntu to execute performance tests.</li><li>Resolved 40+ SSH exceptions by upgrading Ubuntu and iperf3 and adjusting WLAN commands.</li><li>Authored comprehensive documentation on Ubuntu usage, iperf3 procedures, and troubleshooting for SSH and Selenium.</li></ul>	
<b>QA Developer / Automation Specialist (Intern)</b> <i>Manulife, Teranet Inc., and Imagine Communications</i>	Three Internships: 01/2020 – 04/2021 <i>Waterloo &amp; Mississauga, ON</i>
<ul style="list-style-type: none"><li>Designed and implemented automated test cases using JavaScript, React, and C# within Selenium to ensure UI and system stability across web platforms.</li><li>Improved test efficiency by adopting BDD/TDD, resolving over 40 SonarQube issues, raising test coverage by 20%.</li><li>Built scripts to monitor server health and simulate user interactions; ensured UI accessibility by verifying visibility rules for disabled elements.</li><li>Presented QA insights &amp; defect analysis to 50+ stakeholders, contributing to cross-team coordination &amp; issue resolution.</li></ul>	

## Projects

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

## Skills

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

## Education

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

## Certifications

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