

Keegan Liu

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TECHNICAL SKILLS

Languages: Python, TypeScript/JavaScript, C#, C, C++, HTML/CSS, Ruby

Technologies: React.js, Node.js, .NET, MongoDB, CosmosDB, Vue.js, TensorFlow, NumPy, pandas, OpenCV, Git

EXPERIENCE

Software Developer Intern

Jan 2024 - Apr 2024

Idea Notion

Markham, ON

- Independently expanded the DealerAI Chatbot's capabilities to support real-time, dynamic phone calls and Google Chats with customers through integration with the **Twilio API** and the **Google Business Messages API**
- Spearheaded the development of **.NET** and **Python** endpoints used to update & query a **Qdrant** vector database storing dealership metadata, improving the accuracy & speed of dynamic Chatbot responses by up to **3.75 times**
- Individually executed the end-to-end design, implementation, and testing of client-facing pages and features on the Dealership Portal such as Social Login using **React** & **Tailwind CSS** alongside **CosmosDB** & **SQL** databases

Software Developer Intern

May 2023 - Aug 2023

Ford Motor Company

Waterloo, ON

- Developed a **full-stack** application to manage device inventory using **Vue.js**, **FastAPI**, and **MongoDB**
- Designed and implemented various **Python**-based utilities used to automate manual and tedious processes
- Achieved **95%** unit test coverage on a repository file-syncing **Python** application leveraging **Pytest** and **Jenkins**

Software Developer Intern

Sep 2022 - Dec 2022

Ford Motor Company

Waterloo, ON

- Engineered a command-line **Python** application that parses and updates sets of repository files meeting valid criteria using **Pathlib**, **Rich**, **Pyfire**, and **Jinja2**, eliminating **hours** of work after new ECU software releases
- Validated functionality of new Electronic Control Unit software bundle releases using security tokens and **TestRail**

Enterprise Network Solutions Planner

Jan 2022 - Apr 2022

Rogers Communications

Brampton, ON

- Developed various **Python** scripts using **pandas** to automate the weekly manipulation and parsing of large Excel files containing key performance indicators, saving many **hours** of manual labour **each week**
- Built interactive and robust data visualizations in **Power BI** to display the team's historical KPIs over 10+ years

PROJECTS

🔗 Level-Up! - Esports Coach Finder | *Vue.js, Vuex, Firebase*

- Developed a responsive **web app** where users can contact and register as coaches of their favorite video games
- Implemented user authentication using **JWTs**, including auto-login and auto-logout based on token expiry

🔗 Goal Tracking App | *React.js, MongoDB, Mongoose, Express.js, Redux Toolkit*

- Engineered a **full-stack** application where users can create, read, update, and delete a list of their personal goals
- Implemented **REST API** using **MongoDB** to store/access data, **JWTs** for authentication, **Express.js** for routing, and **Postman** to test API requests

🔗 TraveLens - Hack the North | *Python, Google Cloud Vision API, OpenCV*

- Captured FoV snapshots based on blinking patterns using the AdHawk MindLink glasses and the **AdHawk API**
- Cropped snapshots to relevant sections based on eye coordinates by developing an algorithm that uses **OpenCV**
- Identified foreign text in images using the **Google Cloud Vision API** for **optical character recognition**

🔗 Machine Learning Pokemon Type Predictor | *Python, TensorFlow, Keras, Pandas*

- Designed and trained a **3-layer multi-label classification neural network** on > **15,000** unique sprites to determine a Pokemon's typings based on its image using **TensorFlow** and **Keras** in **Python**
- Preprocessed data sourced from **CSV** files and images using **Pandas**, **NumPy**, **scikit-learn**, and **Pathlib**

EDUCATION

University of Waterloo

Sep 2021 - Apr 2026

Candidate for Bachelor of Applied Science (Computer Engineering), 91.69 Cumulative GPA

Waterloo, ON

- Winter 2023, Spring 2022, and Fall 2021 Term Dean's Honours List 🌐

Coursera

May 2023 - Aug 2023

Professional Development

Online Course

- DeepLearning.AI/Stanford University Machine Learning Specialization 🌐