Chris Wang

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SKILLS

- **Languages**: Java, Python, JavaScript, TypeScript, C#, Golang, Arduino, SQL, R, Excel VBS
- **Frontend/Backend:** React.js, Redux, REST API, Material UI, Kendo UI, Tailwind CSS, Flask, Node.js, FastEndpoints, ASP.Net
- **DevOps/Technologies:** Docker, Kubernetes, Unity, Git, AWS, ROS 2, Rviz 2, PyTorch, Linux, WSL

EXPERIENCES

Software Developer (Innovation) – ATS Corporation, Cambridge **Jan 2025 – Present**

- Built and implemented an IIOT API library using **C# ASP.Net** and **REST API** through **FastEndpoints** to enable real-time communication between industry 4.0 edge devices and backend servers, improving system scalability and efficiency
- Developed frontend prototype in **React** and **TypeScript** with **Kendo UI**, allowing intuitive visualization and interaction with live data from PLCs and edge devices for diagnostics, configuration and control
- Containerized and deployed full-stack applications with **Docker** for efficient deployment, portability and simplicity

Toolset Software Developer – ATS Corporation, Cambridge **May 2024 – Aug 2024**

- Utilized **Python, PySpark** and **SQL** Pipelines in **Databricks** to improve the accuracy and scalability of data processing by **30%**
- Developed and implemented **Excel VBA** scripts to streamline data processing workflows, reducing manual errors and improving processing speed by **50%**
- Created dynamic dashboards using **Excel VBA** and **Power Query**, enhancing data visualization and efficient access to data

Data Science Analyst – Royal Canin, Guelph ***Sept 2023 – Dec 2023***

- Utilized **Pandas** in **Python** to extract, clean, and analyze data from diverse sources within the Petcare data ecosystem
- Implemented linear regression models to analyze investment and profit relationships 2023 by **Python Scikit-learn** and **MS Excel and VBA,** revealing a **15.63%** improvement in the sales conversion rate
- Enabled data visualization by leveraging **Matplotlib** for CFO and leadership team, to enhance seasonal **ROI** and **Customer Lifetime Value (CLV)** by optimizing resource allocation

Haptic Interactions Research Assistant – ***University of Waterloo Haptic Experience Lab, Waterloo*** ***Jan 2023 – Aug 2023***

- Led the advancement of the New Frontiers in Research (NFRF) project by orchestrating research initiatives alongside team members, contributing to planning, analysis, and successful execution of research activities
- Designed hardware and software prototypes for interactive haptic and VR experiences utilizing **Unity** with **C# scripts**
- Built haptic device prototypes using **Arduino** to control actuators, infrared sensors, joystick modules and Peltier modules

PROJECTS

Mental Note – ***Princeton University*** ***July 2022***

- Built a personal mood tracker, allowing users to document their daily emotions in the form of a sentiment journal
- Utilizes the open-source code of the sentiment analysis ML model on HuggingFace to detect the user emotion
- Implemented an image generating system using **Firebase**, **Python** and **Flask** as the backend with the OpenAI's API and neural style transfer ML model API to produce a combined image that reflects the user's detected emotion

DebateAI – ***University of Waterloo*** ***Apr 2024***

- Developed an AI debate bot utilizing the **OpenAI API** as the LLM model, **Redux** for state management, **Javascript** with **React.js** and **Material UI** as the front-end, **Node.js** as the server
- Implemented **Firebase** authentication to allow Google sign in and sign up to the application
- Built a classroom page that enables user interaction as students or teachers to create assignments, view debate histories, and update or track assignment status.

WaterLook – RBC Borealis LSI ***Sept 2024 – Dec 2024***

- Developed a plant-watering prediction machine learning model through **Python** for water conservation using machine learning algorithms, including Random Forest, Naïve Bayes, Decision Trees, and Logistic Regression
- Optimized model performance through **hyperparameter** tuning with GridSearchCV and RandomizedSearchCV, graphs and evaluation metrics to achieve 75% precision and 78% recall

EDUCATION

University of Waterloo – ***Management Engineering*** ***Sept 2021 – April 2026***

- Software Design (SDLC), Agile and Scrum, Algorithms and Data Structures, Search Engines, Machine Learning