Daniel Song

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Education

University of Waterloo Waterloo, ON

Bachelor of Honors Statistics, Co-operative Program *2028*

- President's Scholarship of Distinction
- **Relevant Courses:** Elementary Algorithm Design and Data Abstraction, Tools and Techniques for Software Development (Linux/Bash, Version Control), Advanced Algebra, Introduction to Macroeconomics (R), Linear Algebra I, Calculus I and II.

Technical Skills

Languages: Python, Java, R, SQL (MySQL), C, JavaScript, HTML, CSS.
Frameworks/Libraries: Git/Github, Linux/Bash, Docker, Pytorch, Tensorflow, Keras, Flask, Express.js, MongoDB, Node.js, Sci-kit Learn, Pandas.

Experience

AI Researcher June 2024 – Current

Remitbee *Toronto, ON*

- Developed advanced machine learning models to extract insights for business decision making, including predicting customer retention, detecting fraud, and forecasting currency to increase efficiency.
- Constructed a Retrieval-Augmented Generation pipeline, integrating generative AI technologies to design an interactive chatbot. This significantly streamlined customer service workflow, enhancing satisfaction and reducing response times.
- Leveraged Docker to create and manage containers for deploying ML and AI services on the company cloud. Established and maintained stable CI/CD pipelines for improving system reliability and performance.

Data Engineer (Remote) January 2024 – June 2024

Countable *Calgary, AB*

- Built pipelines to aggregate, and transform Alberta government bill data onto the company database using Python, and generative AI integrating it with a Flask back-end to provide a scalable, secure API service.
- Utilized Python, BeautifulSoup4, Selenium, and Generative AI to implement a web scraping methods to automate data extraction and processing with high accuracy and quality, and deployed the solution on the company platform.

Autonomous Software Developer February 2024 – Current

Watonomous *Waterloo, ON*

- Maintained stack infrastructure for team's autonomous driving software based on ROS2 using **Docker** and **Git**.
- Assisted in developing a **PyTorch** 2D/3D object detection model along with multi-task learning models to detect road-relevant classes in camera and lidar.

Projects

Schedulify | *JavaScript, HTML/CSS, Node.js, MongoDB, Express.js*

- Implemented a full-stack **web-application** that allows users to create multiple timetables based on course listings, integrated with personalized preference settings for tailored schedule creation.
- Developed a **REST API** back end that handles manipulation of the schedules generated from the app.
- Designed a **scheduling algorithm** that generates all possible course schedules derived from user preferences, significantly optimizing the timetable creation process

Comment.me - McHacks | *Python, Flask, OpenCV, Tensorflow, Keras*

- Worked with a team of 5 programmers to implement a Full-stack Python chatbot application that generates a compliment with the facial features detected from a webcam
- Developed emotion detecting system by combining **OpenCV**'s facial detection algorithm and Convolutional Neural Network trained on CelebA dataset.
- Utilized OpenAI's API to generate tailored compliments based on the detected facial features and some small conversation topics to interact with the user.