David Wang

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Languages: JavaScript, Python, HTML, CSS, C/C++, Java, SQL
Technologies: React, Node, Express, AWS, Redis, Tensorflow, Keras, Dash

WORK EXPERIENCE

SOFTWARE ENGINEER INTERN | Microgreen Solar
May 2021 – Aug 2021 | Richmond Hill, ON

- Built multi page React app used by 200+ customers for user-friendly monitoring and control of off-grid solar systems
- Revised Python firmware to publish data to AWS MQTT topic and redirect to RDS via IoT Core rule
- Designed GUI with capabilities to override default generator behaviour and configure voltage range of operation
- Wrote serverless APIs with AWS Lambda that interact with MySQL to chart overlaying historical data, power a registration service, and automate real-time data reception

DATA ANALYTICS DEVELOPER | Solara Data
Sep 2020 – Dec 2020 | Winnipeg, MB

- Built a Dash application in Python to analyze lake data from IoT sensors for sustainable development research
- Created real time forecasts and anomaly detection capabilities with the ARIMA model and the Facebook Prophet library
- Developed a UART driver in C for the MSP430 microcontroller that reads satellite data to locate users in remote locations

IT OPERATIONS ANALYST | Compugen Inc.
Jan 2020 – Apr 2020 | Richmond Hill, ON

- Maintained health of servers by monitoring and investigating alert history, regularity, and time elapsed
- Analyzed trends in backup job failures to mitigate future instances by accessing client cloud servers using RDP

EXTRACURRICULARS & PROJECTS

OPENBOT ONLINE
Jan 2021 - Aug 2021 | Waterloo, ON

- Built a remote-control robot car with keyboard inputs through a React app hosted on AWS Amplify
- Embedded live stream of robot view to React app by integrating a Raspberry Pi camera module

SPACEAPPS 2020 HACKATHON
Oct 2020 | Calgary, AB

- **Won SpaceApps 2020 Calgary** with a machine learning program in Python that predicts forest fires globally
- Correlated atmospheric CO levels and natural disasters from CSA's MOPITT and RADARSAT datasets using scikit-learn
- Visualized a Real-time Chloropleth map of carbon monoxide using the Cartopy library

ULTRASONIC RADAR
Sep 2019 - Dec 2019 | Waterloo, ON

- Developed a graphical user interface that visualizes objects detected by a semicircular radar
- Utilized the UART protocol, object oriented programming, and string buffering through the serial monitor
- Built with the Processing IDE, Ultrasonic Sensor (HC-SR04), and Arduino Uno

EDUCATION

UNIVERSITY OF WATERLOO | BASc in Computer Engineering
Expected 2024 | Waterloo, ON

- **Relevant coursework:** Algorithms and Data Structures, Systems Programming & Concurrency, Fundamentals of Programming
- Computer vision team member of Waterloo Aerial Robotics Group
- Clarinetist for University of Waterloo Concert Band Club