Ruiquan (Richard) Su

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Experience

Software Engineering Intern June 2023 - September 2023
Capital Air Ltd., Beijing Capital Group Co. *Beijing, China*

- Developed a Python-based data analysis system, visualizing country-wide air quality using the Gaussian process regression method based on the data collected from over 1,000 sites.
- Developed a PostgreSQL port of the data analysis system using Flask, henceforth used online by over 2,000 clients.

Technical Skills

Languages: Python, C/C++, C#, SQL (Postgres, MySQL), JavaScript, HTML/CSS, LaTeX
Communication: English, Mandarin, French
Developer Tools: Git, Docker, VS Code, Visual Studio, Jupyter, Anaconda
Libraries: pandas, NumPy, Matplotlib, Cartopy, Codecs, PyKrige, FryKit, Flask, Tensorflow

Projects

Cat Feeder | *Python, AutoCAD, Raspberry Pi, DC Motors, 3D Printer* May 2023 - August 2023

- Designed components of the cat feeder using AutoCAD, which was printed using a 3D printer.
- Trained a Python and Raspberry Pi-based Tensorflow AI that distinguishes cats captured by the camera, passing a signal to the motor which releases cat food from the feeder.
- Wrote a clear README file so the average person can print, program, and assemble the feeder at will.

Admissions Database | *Python, PostgreSQL, PHP, Raspberry Pi, Docker, Caddy* January 2022 - February 2023

- Developed a publicly available Raspberry Pi-based data storage & editing system operated via Python and Caddy.
- Customized a login system based on the needs of the Rothesay Netherwood School Admission office.
- Collaborated with the admission team to improve relevant features, serving 325 students each year.

Speech Recognition Glasses | *Python, Google Speech Module, Arduino* January 2023 - May 2024

- Developed a GSM-based Python program to recognize English speech and output the result, thus helping dysgraphia patients.
- Collaborated with a friend to design a glasses framework fit for an Arduino board, a microphone, an LCD module, and an anti-glare visor.
- Successfully recognized speech using the microphone and the Arduino board, outputting it onto the LCD module, which projects the output onto the visor.

Relevant Awards

President's Scholarship University of Waterloo, 2024
Honour Roll Canadian Computing Competition, 2023
Distinction Canadian Computing Competition, 2021, 2022, 2024

Volunteer Work

Elected Academic Representative of the University of Waterloo ECE Class of '29 2024 - Present
Advocate *Waterloo, ON*

- Responsible for scheduling, advocating for the student body, and communicating with the Engineering Society.

Riverhawk News 2022 - 2024
Founder, Writer, Editor, Formatter, and Leader *Rothesay, NB*

- Used leadership & interpersonal skills to found & lead the only student-led newspaper in Rothesay Netherwood School, organized various meetings and gained recognition & funding from the school's Administrative Board.
- Increased the size of the team by 300% since it was first founded in 2 years.

Education

University of Waterloo Waterloo, ON
Computer Engineering, Honours, Coop *Sept. 2024 - Jun. 2029 (Expected)*