

Randy Ren

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TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL, JavaScript, HTML/CSS, TypeScript, Latex

Frameworks: React.js, Node.js, Next.js, Tailwind CSS, FastAPI, JUnit, Mockito

Developer Tools: Git, Github, Fusion360, Google Cloud Platform, AWS, MongoDB, Figma, Blender, Web3

EXPERIENCE

Software Team

January 2024 – Present

UBC Rover

Vancouver, BC

- Led the development of the computer vision system using frameworks such as **OpenAI CLIP** for image and object detection, achieving **95%** accuracy across various terrains
- Designed and implemented occupancy grid-based autonomous navigation using **SLAM (Simultaneous Localization and Mapping)**, improving location accuracy by **20%** and reducing mission time by **15%**
- Developed a prompt-driven control system for a **5-degrees-of-freedom robotic arm**, utilizing **PyTorch** for machine learning-based object retrieval

Software Engineering Intern

May 2024 – August 2024

Visa

San Francisco, CA (Remote)

- Involved in the full software development life cycle from analysis, quality assurance, security, and deployment, contributing to a **30%** reduction in deployment time
- Utilized object-oriented languages such as **Java**, **Python**, and **C++** to develop an API for payment processing and microservices
- Participated in agile development methods, with a strong emphasis on continuous integration and deployment through automated frameworks such as **JUnit** and **Mockito** for **Java** applications

PROJECTS

Personal Portfolio | GitHub |

- * Developed a personal portfolio website using **Next.js** and **Tailwind CSS** to showcase skills, projects, and contact information
- * Implemented responsive design and dynamic theming to enhance user experience across devices
- * Integrated **Resend API** for efficient email forwarding, streamlining contact management
- * Optimized site performance using more efficient algorithms, achieving a **35%** improvement in load times and user interactions

Facial Recognition System | GitHub

- * Developed a facial recognition system using **Python** and **OpenCV** for real-time image and video processing
- * Implemented a facial recognition library for robust face detection and recognition, achieving **95%** accuracy in facial identification
- * Created a user-friendly interface with **Tkinter**, integrating **PIL** for image handling and **NumPy** for efficient numerical operations
- * Utilized **dlib** for facial landmark detection and deep learning-based facial encodings, enhancing recognition accuracy and speed

Wordle Solver | GitHub |

- * Developed an interactive Wordle guessing game using **JavaScript** and **HTML**, featuring a built-in solving algorithm for enhanced gameplay
- * Designed an efficient solver algorithm that uses initial strategic guesses, feedback filtering, and backtracking, solving words with a **98%** success rate

EDUCATION

University of British Columbia

Bachelor of Applied Science in Electrical Engineering w/ co-op

Vancouver, BC

Sep. 2023 – Apr. 2027