

# Zhirui Wang

 <https://github.com/KyrieRui>  [www.linkedin.com/in/zhirui-wang-b5b1b9194](http://www.linkedin.com/in/zhirui-wang-b5b1b9194)  021 0849 6271  
 [kyrie19960324@gmail.com](mailto:kyrie19960324@gmail.com)  <https://dev.to/kyrierui>  <https://kyrierui.github.io/ruipage/>

## SKILLS

---

**Proficient:** Python, Java, JavaScript/TypeScript, HTML/CSS, React.JS, Flutter  
**Previous Experience:** L<sup>A</sup>T<sub>E</sub>X, C/C++, C#, MySQL/PostgreSQL, Swift, Android SDK .Net, R, PHP  
**Tools:** Git/GitHub, Unix Shell, VS Code, IntelliJ/PyCharm/IDEA, AWS, Azure, Android Studio, XCode  
**Other:** Hugging Face, RAG LLM (Large language model), YOLO, Machine learning, Algorithm Engineering, Model fine-tuning  
**Soft Skills:** Communication and Team Work, Public Speech, Self-driven problem solving, Self-learning and adapting new skills, Time management

## WORKING EXPERIENCE

---

**Bay of Plenty Regional Council** | *AI Assistant*

November 2023 – Present

- Implemented Agile Development methodologies to design AI Applications, enhancing workflow efficiency.
- Developed algorithmic models and programs to address specific challenges, such as deploying LLM and Web applications for privacy Document Q&A.
- Trained YOLOv5s models for water line observation, leading to the creation of Android and iOS flood warning applications.
- Use Gradio to set up locally running LLM, through API calls to develop IOS and Android smartphone ChatBot applications.

**Victoria University of Wellington** | *Summer researcher*

November 2022 – February 2023

- During this summer research project, I was responsible for designing a fruit classification algorithm for the agriculture department.
- The aim is to use genetic programming, combined with spectral vibration techniques, to nondestructively classify New Zealand plums by origin and variety.

**Code Club Kahurangi** | *Volunteer, IT Tutor*

August 2022 – Oct 2022

- At Kahurangi School, we are engaged in teaching and volunteering activities. The main job is to help children understand coding concepts by explaining logic through examples like creating some logic basic games or programming robot motion using tools such as Scratch, Microbits, and Edison Robots.
- Organized competitions, including robot races and rock-paper-scissors games, to evaluate the effectiveness of our teaching methods in a fun and engaging environment.
- Demonstrated to students the versatility of coding by presenting various logic code solutions, emphasizing that multiple approaches can solve a single problem.

## PROJECTS

---

**Public Transit Search AI Assistant** | *React, Python, APIs (Google Maps), Git, Unix Shell, VS Code*

Dec 2023

- Team project for Tauranga BayBus official website embedded customer service ChatBot.
- The team used Agile Development, learned and built a Full-stack Web App, integrated with FastAPI for data communication.
- Learn to use libraries supported by LangChain and LLaMA CPP, run LLM locally and store text retrieval and similarity matching via RAG using chroma vectors.
- Enhance the user experience by Google Maps APIs to provide visual maps of operations. Users can quickly access information using LLM human assistants and data visualization tools.

- Gain solid knowledge of React, HTML, CSS and other front-end, and further master back-end Python and teamwork skills.

#### **BOP GPT** | *Flutter, Android SDK, Swift, API(Gradio), Git, Unix Shell, VS Code*

Nov 2023

- A team project to develop a mobile APP within the BOPRC organization to provide secure, offline AI assistants for employees.
- Learn to establish communication between the phone and the host via the Gradio framework API.
- Learned and accumulated a lot of experience using Flutter to develop cross-platform software.
- Gaining experience to write test scripts.

#### **Self-created VPN server.** | *Azure, AWS, OpenVPN, Google cloud*

September 2023

- Set up this cloud server for my mother's Google Scholar access via my established VPN on the cloud serve.
- Gaining skills in how to configure and build cloud servers, including the basic concepts of cloud servers such as firewalls, user group Settings, and bill gaining.
- The server has been running on Azure and AWS free student accounts since September 2023, and moved to Google Cloud when the free student account quota ended in December 2023. I shared the build process on my Dev.to blog.

#### **Police department crime and robbery search database.** | *Postgre SQL, Git, Datalore IDE*

May 2023

- Analyzed relationships in an Entity-Relationship (EER) diagram for a police department's database focused on bank robberies. Identified primary and foreign keys, constraints, and table structures using PostgreSQL.
- Gaining achieves the structure of the design by creating tables and building a PostgreSQL database.
- Learned how to import relevant data into the database, ensure the right relationships, and make the necessary fixes to complete the project. Features include a search function for information about bank robbers.

#### **Wellington Bus Stop Search** | *Java, Maven, Git, JUnit 5, JavaFX*

July 2022

- Developed a Java application to simulate the bus route display and search function for the Wellington area, based on real-world bus stop data obtained from the Metlink website.
- GConvert longitude/Latitude (GisPoint) coordinates to X/Y (Point2D) coordinates with JavaFX: Graphically plots all nodes and edges to visualize bus stop locations, allowing users to easily identify and interact with specific stations.
- Gained experience in object-oriented programming and how to write Java test scripts using JUnit5.

#### **Machine Learning Projects: Hand Recognition** | *Python, OpenCV, Git, mediapipe*

July 2022

- The algorithm finds the gestures captured by the laptop webcam and then writes logic to control the volume of the laptop in real time.
- Through two Windows, the user's hand movement is overlaid on the real-time image to realize the user's painting in the air.
- Learned how to use OpenCV and mediapipe libraries for image processing and hand gesture detection.
- Implemented features such as continuous drawing and mode selection for colour switching or erasing.
- Focused on enhancing human-computer interaction and accessibility, particularly for children.

## EDUCATION

---

### **Victoria University of Wellington**

June 2021 - Nov 2023

*B.S. Computer Science*

## ACADEMIC ACHIEVEMENTS

---

### **Summer Research Scholarship**

Nov 2022 – Feb 2023

Won \$8000 Scholarship for 4 months research project, completion of algorithm model design and finished research report.

## REFERENCE

---

- **Garry Christoffersen** – Bay of Plenty Regional Council  
Email: Garry.Christoffersen@boprc.govt.nz
- **John Clegg** – Kahurangi Code Club Coordinator  
Email: john@projectx.co.nz
- **Professor Qi Chen** – Victoria University of Wellington  
Email: qi.chen@vuw.ac.nz