Changxing Gong

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Education

University of Canterbury   B.S. Computer Science
2018 – 2021
I joined University of Canterbury in 2018, major in computer science. I mostly took computer science courses in topics such as Artificial Intelligence, Computer Graphics, Internet Technology. But I am interested in various science and engineering subjects such as Geography and Computer Engineering. Therefore, I have taken courses such as Remote Sensing and Computer System. GPA 6/9

Personal Highlight

- Passionate about new technology while focusing on its fundamentals.
- Fast learner with a super curious mind.
- A keen attention to detail.
- 100% devoted to my work.
- Effective communication and collaboration.
- Open and ready to learn new skills or languages

Skills

- C/C++, Python, Java, Bash, OpenGL, Qt, Flutter, PHP, HTML, CSS, JavaScript, Git, Jenkins, Jira, CI/CD, Linux/MacOS/Windows.
- Topics involved in my courses related to computer science: Algorithm, Internet Technology, Computer Graphics, Artificial Intelligence, Embedded System, Software Engineering, Cyber Security

Project Experience

- Happy Farm Game

  Very interesting farm game using Java and Window Builder. The challenging part is the complexity of this application and there is so much work to do to meet the project deadline. This project largely enhanced my GUI programming skills.

- Space Battle

A space battle game running on an Atmega32u2 microcontroller written in C. It requires two microcontrollers and UCFUNKIT4 software package to communicate using Infrared transmitter and receiver. It largely exposes me to embedded system topics. I found this project very appealing as it enabled me to have real impact on the physical world.

- ### Servis App (Internship)

  A cross-platform application to post or find local services in New Zealand. My job was working in a highly collaborated environment, writing extensive unit test cases, and documenting test modules. Help our senior developers identifying bugs, fixing minor flaws. This project helps me get used to Dart language, Flutter UI, and familiarizes myself with a series of tools involved in CI/CD pipeline.

- ### Synchronized Animation

  An OpenGL project written in C++. The difficulty is the given deadline and its mathematical difficulty, I simplified the real pendulum motion into a pseudo pendulum motion. This can largely decrease its performance requirement while preserving its visual effect.

- ### Exhibition Room

  OpenGL project using Ray tracing written in C++. It's a static exhibition room. Techniques applied including adaptive anti-aliasing, refraction, and reflection. The most difficult part on this project is its underlying mathematics, but I found this project very appealing despite of its difficulty.

- ### Time Server

  A server using UDP sockets to communicate with its clients. Though this project, I learned more about UDP socket, practiced socket programming, and gained some insights about how powerful an application with communication protocol can be. The most challenging part is reading extensive manual and APIs to understand how transport layer protocols work.

- ### Routing Information Protocol (v2) Simulation

  Simplified RIPv2 daemon using UDP sockets to communicate written in Python. Implementation also includes techniques such as garbage collection, split horizon with poisoned reverse. To finish this project, I need to thoroughly understand its RFC specification, knowing more about RFC. This project helps me know more deeply about how router's algorithm works.

Intern

PI Technology   Intern, Test Engineer
Oct 2019 – Dec 2020
PI Technology was developing a new cross-platform Servis mobile application using Flutter. My job was to write extensive unit test cases for those functions on its mobile platforms. Through this opportunity, I learned Flutter UI, familiarized myself to a collaborated, Agile software development environment, including using tools such as Git, Jenkins, Jira and other tools in CI/CD pipeline.

Other Work Experience

Mill Creek Orchard   Full-time Fruit Picker
Nov 2020 – Jan 2021
The orchard introduced a new blueberry variety. As one of their pickers, I need to constantly pick from 8am to 5pm, it requires a lot of persistence.

Daphne's Restaurant   Full-time Waiter
Oct 2019 – Jan 2020
Daphne's restaurant is a very busy Chinese cuisine. As a waiter, I was required to deliver hundreds of dishes during the busiest hours. Every shift is like an adventure. It's great fun to work in such fast-paced environment.

Sushi Fresh   Part-time Sushi Maker
July 2019 – Oct 2019
General kitchen hand at night. Learned making Sushi, preparing Japanese dishes while working on this role.

Sunmart Foods   Part-time Retail Assistant
Oct 2018 – July 2019
Worked in a supermarket during my study at university. It is amazing that their stock is from so many different places around the world.

Volunteer Experience

Student Volunteer Army
Jun 2021 – Present
I joined various volunteer events such as City mission food bank sorting, Sustainability Coastline tree planting, UC gardening and so on. I also worked as a volunteer at vaccination clinics such as St Margaret's hospital and Riccarton vaccination facility. General work at vaccination facility is to welcome people, find their bookings and give instructions.