

Honglin Cao

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EDUCATION

UNIVERSITY OF WATERLOO
BACHELOR OF COMPUTER SCIENCE
Expected Sep 2025 | Waterloo, ON
President's Scholarship of Distinction
Faculty Avg: 93-94

LINKS

Github:// **V2arK**
LinkedIn:// **Honglin Cao**

COURSEWORK

UNDERGRADUATE

Algorithms
Operating Systems
Distributed Systems
Functional programming
Object-oriented programming
Application Development (Full Stack)
Data Structures and Data Management

SKILLS

LANGUAGES

Proficient:

Python • C • C++ • C# • Java
SQL • Racket • R • Bash • \LaTeX
Groovy • HTML • CSS

Familiar:

JavaScript • PHP • kotlin

TOOLS

Postman • GaussDB • CockroachDB
Jenkins • GitLab • VS Code
Fusion 360 • Microsoft Access
Unity 3D • Unreal 4

PLATFORMS

Arduino • Raspberry Pi
Flipper Zero

OS

Linux • Windows

EXPERIENCE

HUAWEI | DISTRIBUTIVE DATABASE ENGINEERING INTERN

Sep 2023 – Dec 2023, Jan 2022 – Sep 2022 | Markham, ON

- Created automated tests on **GitLab CI** and **Jenkins** across **ARM** and **X86** environments, maintained and adapted them to suit the rapid development goals.
- Standardized automated **Jenkins** tests for **TPC-C** benchmark on single-node, physical and logical multi-node **GaussDB** configurations with template scripts in **Groovy**, **Bash**, **python** and **Java** and setup / usage Wikis, ensured uniform experiences, easy adaption and skill transfer.
- Managed servers to suit developers' needs, troubleshooted issues ranging from faulty link negotiation settings to low performance caused by unoptimized **sysctl** attribute.
- Quantified database system performance regression with tools like **perf**, **gstack**, **vm/iostat**, **CPU Flame-graphs** and **jTPCC**, aided developers on improving design with insights from them. Worked on automating them to a one-click program with GUI using **bash**, **python** and **HTML/CSS/PHP**.
- Allocated, setup and fixed machines for developers, ensuring a fair distributed workload on working environment across the teams.
- Documented findings from experiments into reports for developers to present; Guided team members with well-written Wiki on different tasks.

HUAWEI | DISTRIBUTIVE DATABASE ENGINEERING INTERN

Jan 2023 – Apr 2023 | Markham, ON

- Designed and implemented a **RPC** sub protocol over **TCP** and **RDMA**, allowing packages to be send without size limits in **C**, allowing **crash recovery** message to be sent on multi-node **GaussDB** configuration.
- Designed and implemented **unit tests** from the ground up for testing **RPC** functionality, and used existing framework to implemented **unit tests** for other features using **C++** and **JUnit**.

PROJECTS

SETTLERS OF CATAN | C++ OOP

Sep 2021 | Project Manager, Programmer

- Liaised with team to finalize the design, decided a viable plan of attack for members, provided programming insights throughout the project.
- Designed the structure of the program with **OOP** concepts and **design patterns**, programmed the framework and **unit tests** with **C++** and finished the program with 7144 lines.

BAIERS' TODO LIST | KOTLIN FULL STACK

Dec 2022 | Project Manager, Programmer

- Designed and implemented the **GUI** with **MVVM** design pattern using **JavaFX**, with **unit tests** for **client** done in **JUnit**.
- Used **Spring Framework** with **CockroachDB** to host the **server**, did manual tests on **API** with **Postman** and implemented **unit tests** in **JUnit**.
- Deployed installation media using **JPackage** to MacOS, Linux and Windows.