Yifei Qi

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TECHNICAL SKILLS

Program Language	**C/C++**, **C#**, **Python**, **Scala**, **Java**, Bash, R, SQL, Racket
FrameWork	**Apache Spark**, **Flink**, **OpenGL**, Numpy, Scikit-Learn, pandas, Razor, Node.js, Tailwind CSS
DevOps	MiniConda, Docker, WSL2, Visual Studio, MySQL, Git, Jenkins

EXPERIENCE

Software Verification Engineer   **Wise Device Inc, ON**

April 2024 - Aug 2024

- **Designed and developed a testing software** build using C# and .NET framework for laser sensor systems, integrates proprietary algorithms with third-party Motion Control API.
- **Enhanced Testing Workflow** by intorducing technique such as XML script-based automated testing, leveraging async operations for efficiency.
- Implemented real-time data capture and dynamic visualization using the **OxyPlot** library.
- **Developed testing software** with **MFC framework**, implementing focus algorithms to automate sensor focusing and data collection across various surface types.

Junior Technical Support Analyst   **AGF Management Inc, ON**

April. 2023 - Aug. 2023

- Automated IT device management through Microsoft Power Automate and Microsoft SharePoint, enabling the automatic updating of device records for loaning, usage, incident and repair status.
- Use MS Power BI to create data visualization of data records from Service Now to analyze device repair rate, and incident counts per staff member, and identify outstanding incident category from 2022 to 2023.

PERSONAL PROJECT

Causal-Order Broadcast Protocol   TU Delft, Netherland

DEVELOPER   Nov-Jan. 2024

- Engineered a **Causal-Order Broadcast Protocol** in Distributed System using Python with IPv8 p2p network communication between nodes running in Docker container.
- Incorporated the **Bracha's reliable broadcast protocol** and **Dolev Algorithm** to ensure reliable broadcasts with **fault-tolerance** to **Byzantine behaviors** in non-fully connected networks to maintain **message integrity** and **fault-resilience** under diverse network conditions.

OpenGL Renderer   Delft, Netherland

DEVELOPER   Oct. 2024

- Developed a real-time **graphic renderer** using **OpenGL** and **C++20**.
- Implemented various features including multiple shading models (Lambert, Blinn-Phong, PBR), HDR environment mapping, deferred rendering, post-processing effects, image-based lighting, and realistic material textures for enhanced realism.

Sorcery   University of Waterloo, ON

DEVELOPER AND DESIGNER   Nov. 2023

- Designed a Hearthstone-like card game using C++20 that offers two players to play game against each other using card deck built by players through both Text display and GUI display using X11.

EDUCATION

University of Waterloo   Sept 2022 - Present

COMPUTATIONAL MATHEMATICS HC   University of Waterloo President's Scholarship of Distinction recipient

Delft University of Technology   Sept 2024 - Jan 2025

EXCHANGE MASTER COMPUTER SCIENCE   President's International Experience Award

Course : Distributed System, Machine Learning, Computer Graphic