Shi Qi

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Skills

Programming	Python, C++, C#, Java, JavaScript, Rust
Deep Learning	PyTorch, sklearn, HuggingFace
Web	HTML, CSS, React, Django, SQL, Plotly, Dash
Embedded System	STM32, Arduino, Raspberry Pi, VHDL
Tools	Git, Github, VS Code, Vim, Jupyter Notebook, Conda, Docker, Markdown, Latex

Experience

Data2Discovery

Remote - Bloomington, US

Software Developper — *Feb. 2023 - May. 2023*

- Maintained and developed a data visualization dashboard using the Dash library.
- Refactored fatal design flaws, leveraged proper usage of the Dash library, and eliminated linearly increasing server call queue time.
- Researched on the Transformer model, and hosted workshops discussing its internal workings and limitations.
- Lead projects amoung three data science graduate teams, contribute to decision making and organized regular internal communications.

Projects

Reinforcement Learning in 2D Shooter

Python, Pygame, PyTorch — *2022*

- Created a 2D top-down arena shooter game in PyGame with custom sprites and collision logics.
- Implemented Q learning with PyTorch and trained an AI that shoots moving targets in the game.

Star Formation Simulation: Astro Award Winner

Mcgill Physics - Hackathon

Python, Pygame — *2022*

- Created a simulation of planetary motion in PyGame, demonstrating gravitational pulls between stars and the formation of larger bodies.
- Calculated the trajectories using Euler's method, based on physics simulated using Newton's Laws.

Minecraft teleport plugin

Java, Spigot, Maven — *2021*

- Developed a Spigot plugin running in Minecraft 1.16, enabling teleport-able waypoints and teleportation requests between players.
- Implemented an in-game GUI for the command menu, and added teleport animations with sound effects, potion effects, particle effects and animated bossbar.
- Deployed the plugin to a self hosted server peaking 30 online users with no sign of performance drawback.

SVI Scheduler

MariHacks 2.0 - Hackathon

Python, TypeScript — *2021*

- Developed a Google Sheet plugin that automatically balances work load across different workers based on their availabilities, using greedy algorithm and priority queue.
- Later deployed at an organization providing translation service for allophone patients, and is proven to be highly functional through worker feedbacks.

Education

University of Waterloo

Waterloo, ON, Canada

Computer Engineering, Undergraduate — *2022 - present*

President's Scholarship, 1A average: 92.08

Honors & Awards

2021	**Winner of the Astro Award**, McGill Physics Hachathon	*Canada*
2021	**Winner of the beginner HTML prize**, BrebeufHX 4.0 Hackathon	*Quebec, Canada*
2022	**Unofficially ranked scoring 80+**, Euclid Contest	*Canada*
2021	**Top 25%**, Euclid Contest	*Canada*
2019	**Top 25%**, Fermat Contest	*Canada*
2018	**Top 25%**, Cayley Contest	*Canada*