

Yihang Lin

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EDUCATION

University of Toronto Toronto, ON, Canada 2019.09 - 2024.06(Expected)

- Bachelor in **Electrical and Computer Engineering**, Faculty of Applied Science and Engineering
- **Minor in Artificial Intelligence Engineering** + Business Certificate

WORK EXPERIENCE

Software Backend Engineer Intern Beijing, China 2022.09 – 2023.09
Tencent Technology (Beijing) Co., Ltd. Professional Experience (PEY) Year Co-op

- Worked with Tencent's backend team on market quotation and data management, completing tasks such as developing and maintaining APIs and CGIs, and managing data and tables using scripts, SQL, and Redis.
- Developed functional and responsive APIs for backend team's data management platform using MVC and Laravel, in which has functionalities ranging from querying and editing data in DB to processing data modification requests. **Achieved average response time in 200ms – 500ms with optimized SQL queries.**
- Ensured data safety and prevented SQL-injection using PDO, input validation, queries parametrization, and escaping. Strictly followed a "zero-trust" standard on user inputs.
- Designed and developed an interactive visualization model using Vue and ECharts for team's data dictionary platform. Facilitated the maintenance process by categorizing tables based on their priority, and animating data relationships.
- Regular reported weekly progresses to team leader and frequently communicated with other colleagues.

Intern on Productivity and Improvements Buenos Aires, Argentina 2018.07
ICBC S.A. Argentina

- Collected data on productivity and efficiency of five operation divisions, consisting of 200 employees, based on the LEAN methodology published by McKinsey and Company.
- Scheduled agendas and reviewed progresses with the head of each operation teams, recording factors such as rate of absence, number of tickets completed, and specific issues that needs to be discussed.
- Reported the KPIs and interview summaries, in English and Spanish, to executives on a daily basis.

SELECTED PROJECTS

Geographic Information System (GIS) Development Toronto, ON, Canada 2021.01 – 2021.04

- Led in a team of two to develop a GIS application with a functional UI using C++, Glade, GTK Graphics Libraries and unit tests on faculty approved DebianOS (Linux) machines. Used SSH and VNC Viewer to gain remote access.
- Queried open-source APIs published by ArcGIS to obtain Geographic information of different cities.
- Used Hash Maps and Trie to process complicated and large data sets. **Reduced response time by 20% - 30%** when comparing to the initial implementation.
- Implemented shortest path finding feature using Dijkstra and Priority Queue, **returning results in 300ms – 500ms.**
 - Users may find the shortest path by typing the names of starting points and destinations or by directly selecting them on UI. The typing option has a "closest match" feature, which dynamically predicts locations based on user inputs.

Smash La Fruta (Game Development) Toronto, ON, Canada 2021.04

- Developed a game inspired by Fruit Ninja using C on CPULator, which is a DE1-SoC simulation software.
- Designed an interactive UI with in-game objects and physics logic, utilizing suitable mathematical functions to ensure performance and UX. Guaranteed gameplay smoothness using double pixel buffering on VGA controller.
- Implemented functional PS/2 mouse interrupt, allowing users to interact with game objects.
- **Scored 11/10 on this course project**

SUMMARY OF SKILLS AND TOOLS

Programming Languages: Python, C, C++, PHP, Golang, SQL, Verilog/System Verilog, ARM V7 Assembly, JavaScript, Shell
Tools: MATLAB, Simulink, MySQL, Redis, Nginx, Git, Intel Quartus Prime, FPGA/DE1-SoC, LTSPICE, Intel Quartus Prime
Frameworks & Protocols: MVC, Laravel, gRPC, VueJs, Apache ECharts, Element, http/https protocols, wireless protocols.