

Sabrina Liu

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SKILLS

Coding/Analytics: SQL, Python, R, C, C++, Java, Racket, Linux, MIPS, HTML, CSS, Matlab

Visualization Tools: Tableau, Power BI, MS Excel, LaTeX, Jupyter Notebook

Data Skills: Data Cleaning, Data Preprocessing, Data Modeling, Data Visualization

Soft Skills: Teamwork, Detail Orientation, Data-Driven Strategy, Time Management, Organizational Skills

EDUCATION

University of Waterloo

September 2020 - April 2025

Bachelor of Mathematics in Computational Mathematics, Minor in Computational Optimization; **Co-op** program

- **Courses:** Data Types & Structures; Computational Linear Algebra; Nonlinear Optimization; Computers & Computer Systems; Logic & Computation; Object-Oriented Software Development; Statistics & Probability
- **Awards:** President's School/Distinction Scholarship

WORK EXPERIENCE

TepaIOT

September 2023 - December 2023

Testing Engineering Intern

Shenzhen, China

- Submitted 90+ bugs on ZenTao and executed 1570+ testing cases for each version of UAP business structure rectification that aimed for the Cyberspace Asset Mapping product.
- Developed an automated testing platform using **Flask, Selenium, and Pytest**, enabling simultaneous execution of 160+ test cases, resulting in an **11%** improvement in basic testing efficiency.
- Utilized Navicat in **MySQL** to locate and modify essential test modules in the database. Demonstrated proficiency in **Linux (SSH)** commands for operations such as upgrades, mirroring, and asset locating.
- Installed and utilized VMware virtual machines, configuring network segments as per test requirements.
- Built a **Tableau** dashboard to visualize asserts information for testing the visual board on the platform.
- Possessed expertise in deep learning containerization, cloud-native solutions, and probe containerization.

Zhuozhuo Technology Co., LTD

January 2023 - April 2023 & August 2021 - November 2021

Operation Intern

Chengdu, China

- Extracted and converted user data into CSV format, employing **SQL** to join and union for valuable insights.
- Applied **Search Engine Optimization** to enhance the search rank for the Camera Math website.
- Constructed a detailed question bank with comprehensive classification, collaborated with the operations team to analyze data, and achieved a **13%** increase in overall operational efficiency.
- Addressed advanced mathematics questions for students with feedback, and developed operational reports to effectively condense crucial metrics and performance indicators for management assessment.

Xmaker

November 2019 - January 2020

Teaching Assistant

Chengdu, China

- Prepared course material for **Laser cutters, 3D printers, and Scratch**, with data cleaning & visualization.
- Leveraged strong technical skills to guide students in mastering **Python, SQL, and R** for data analysis.
- Provided personalized assistance in practical application and addressed inquiries during lab session.
- Conducted assessments of critical thinking and integrated industry trends for enhanced practical insights.

PROJECT EXPERIENCE

Data Analysis

September 2023 - December 2023

- **COVID-19 DATA ANALYSIS:** Conducted in-depth **SQL** data exploration, utilizing advanced querying techniques, and crafted impactful **Tableau** visualizations to distill complex data into actionable insights.
- **BIKE SALES ANALYSIS:** Conducted meticulous data cleaning in **Excel** and crafted a comprehensive dashboard, merging data cleaning expertise and visualization skills for informed decision-making.
- **DATA SURVEY VISULIZATION:** Built a **Power BI** dashboard with a professional survey breakdown.
- **AIRBNB DATA VISUALIZATION:** Developed a **Tableau** dashboard featuring an interactive map.
- **WEBSITE DATA HARVEST:** Implemented a **Python-based** project for encompassing web scraping on Wikipedia and the automation of API pulls from a cryptocurrency website.
- **MOVIE DATA CORRELATION:** Incorporated data cleaning and explored variable correlations by **Python**.

Other projects (github: <https://github.com/SabrinaLiuYing>)

September 2021- December 2023

- **PYTHON:** BMI; ADT Pixel Square; Ordered Tree
- **MATLAB:** PED Denoise; Heat Flow Modeling
- **R:** QQ Plot; Histogram; Density; List; CDF
- **C++:** Hydra; Sum Heap; Mastermind; Bash
- **C:** Balanced BST; Minesweeper;
- **CSS/HTML:** Personal CV website