JONATHAN LEUNG

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EDUCATION

University of Waterloo Waterloo, ON
*B.Math., **Computer Science** and **Combinatorics & Optimization** double major (GPA: 3.98/4)* *Sep 2022 – Present*
Courses: Reinforcement Learning, Object-Oriented Software Development (Enriched), Statistics (Advanced)
Activities: Marker for MATH 135 Algebra for Honours Mathematics, Computer Science Club, Animusic Ensembles

SKILLS

Languages   Python, C, C++, JavaScript, HTML, CSS, Sass, SQL
Technologies / Tools   Flask, React, Gatsby, Git, NoSQL, Bash, Linux, AWS, GCP

EXPERIENCE

Hang Seng University of Hong Kong Hong Kong (Remote)
Research Assistant *May 2023 – Mar 2024*
- Collaborated with Professor Carlin Chu on an **NLP** paper (accepted to HCI International Conference), using the **BERT** model with prompt-based learning for aspect-category sentiment analysis on restaurant reviews.
- Worked with **PyTorch**, **Transformers** and **pandas** to extend a **Python** code base to support new multilingual datasets, showing the generalization of our methodology on various datasets.
- Developed a proof-of-concept Instagram crawler using **Python** and **MongoDB** to detect bilingual content containing associations with self-harm / cyberbullying.

Oak Valley Health (Markham Stouffville Hospital) Markham, ON
Student, IT Department *May 2023 – Aug 2023*
- Leveraged **Python** and **openpyxl** to clean Meditech-exported clinical dictionaries (10k+ rows) and organize them into **Excel** spreadsheets to support a data migration process.
- Reconfigured single sign-on integration with a medical transcription app, boosting the auto-login success rate by 40%, resolving a major complaint from Emergency Department (ED) physicians.
- Demonstrated strong communication skills by leading an investigation on the new SSO system, supporting and shadowing ED physicians during go-lives, and presenting on IT business continuity to clinical managers.

Wah Yan College, Kowloon Hong Kong (Remote)
Competitive Programming Trainer *Aug 2022 – Apr 2023*
- Hired after graduation to train a 20-member school team for regional programming contests.
- Hosted 10+ programming contests to develop students' proficiency in **C++** and algorithmic problem-solving.

ACTIVITIES

Hong Kong Olympiad in Informatics Training Team: Placed in the top 20 in Hong Kong's Team Formation Test for IOI. Selected to represent Hong Kong at the Asia-Pacific Informatics Olympiad.

Jane Street First-Year Trading and Technology Program: 1 of 90 freshmen in North America invited to attend a highly selective program on electronic trading at Jane Street's New York office.

Competitive Programming: Candidate Master (Top 3%) on Codeforces. Rank 95/10322 in Google Kick Start Round E 2022. Rank 3/24229 in LeetCode Weekly Contest 296.

Math Contests: Top 25% (score: 20/120) in Putnam 2023, the most prestigious university-level math contest.

PROJECTS

WYK Online Judge | *Python, HTML, Sass, JavaScript, Bootstrap, MySQL, AWS*
*Programming contest platform with **8k+ code submissions** from **130+ students***
- Designed contest system to leverage multiple processors for concurrent submission grading.
- Synced test case data across servers automatically using GitHub webhooks and shell commands.

Word Chain Bot | *Python, PostgreSQL, Stripe, AWS*
*Telegram bot hosting an English word game with **790k+ players** served*
- Adopted asynchronous I/O to support 40+ concurrent game instances.
- Processed payments through Stripe for access to a premium game mode.