Weihang Zheng

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EDUCATION

University of Toronto **September 2019 - May 2024**

BASc, Computer Engineering, minor in Artificial Intelligence and Business *Toronto, Canada*

- *Dean's Honour List* all semesters (6x); 3.74/4.0 cGPA, 85.2% average, Graduate Courses: Algorithms and Data Structures
- Courses: Operating Systems, Networking, Compilers and Interpreters, Software Engineering, Machine Learning, Math

MOST RECENT INDUSTRY EXPERIENCE

Splunk Inc. **May 2023 - Aug 2023**

Software Engineer in Test intern *San Francisco, USA*

- Researched 5+ alternative ways of sending GitLab pipelines over to Splunk's Automation Result Triage App, including manipulating: HTML/Javascript, Splunk Search Processing Language macros, and HTTP Collector environment variables.
- Implemented one of the above methods for the Splunk Trusted Applications and Add-ons testing workflow to reduce the time needed for full time engineers to triage test failures by 10x+.

Huawei Technologies **Jan 2023 - May 2023**

Big Data Developer Intern *Toronto, Canada*

- Implemented a C++ class to hash any primitive, wrapper, and container data type in the C++ Standard and STL library, to cache parameters to speed up LLVM Just-in-time compilation-based database queries by 10%+.
- Archetyped an efficient workflow for building, invoking, retrieving TPC-DS query results on cluster servers using Jenkins; hosting Flask and Grafana Docker servers to store and visualize live query results.

PERSONAL PROJECTS

Stealth Project **Jul 2023 - Present**

- Leveraged GPT-3.5-turbo-16k API calls in a multithreaded LOOCV pipeline to prompt engineer nuanced essay feedback.
- Created a pipeline combining GPT to translate natural language into a SQL query to return sets of relevant data from a search bar from a Heroku PostgreSQL database.
- Modeled solution to a pathfinding problem with known Algorithm, Data Structures, and techniques: K-Means Clustering, Dynamic Programming, Gradient Descent, Trie, Heap, and GloVe Embeddings.
- Utilized Firebase's Realtime Database to create a secure account creation and login mechanism for users.
- Oversaw the tech stack of the Minimum Viable Product: containerized Docker Flask backend and the Svelte front end.
- Experimented with successfully deploying to Apple Store in the Swift UI prototype of our product.

RESEARCH EXPERIENCE AND PUBLICATIONS

University of Toronto

AI Capstone Project (supervised by Professor Lacra Pavel): **September 2023 - Present**

- Machine Learning and Reinforcement Learning Algorithms for Adversarial Agents in a Collaborative Network.

Machine Learning Research Contractor (supervised by Professor Xilin Liu X-Lab) **May 2023 - Present**

- Remodelled pipeline for small K-fold accuracy and 3x training time improvement in an EEG sleep scoring classification.

Machine Learning Research Intern (supervised by Professor Kostas Plataniotis Multimedia Lab) **May 2021 - September 2021**

- Neural Architecture Search: Spearheaded the Uniform Crossover Genetic Algorithm for Channel Size Optimization idea, reducing ResNet34's total parameter size by 33% while achieving higher test accuracy on CIFAR100.
- Co-authored one publication, CONetV2, under Professor Kostas Plataniotis, accepted for oral presentation at ICMLA.

AWARDS/PROJECTS

- Top 1% Leetcode Guardian, Top 2% CCC, 1st place, 6th place, 7th course competitions, NSERC Scholarship $7700

TECHNICAL SKILLS

- Python, C, C++, HTML/CSS/JS, SQL, Flask, SwiftUI, Docker, Grafana, GitLab, Jenkins, Splunk, Linux, LLVM, TCP/IP