Yumeng He

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Education

University of Southern California — Los Angeles, CA
Master of Computer Science — *Aug 2024 – Present*
- Expected to graduate at May 2026

University of Toronto — Toronto, ON, Canada
Honours Bachelor of Science degree with High Distinction — *Sep 2019 – May 2024*
- Computer Science and Mathematics double major
- Cumulative GPA: 3.71/4.0, highest Sessional Average: 92.40%.

Experience

Software Developer Intern (1 year full-time) — August 2022 – August 2023
HCL Canada Inc. — *Toronto, ON, Canada*
- Acquired proficiency in Bash, Linux commands, Docker, Gradle, and Ant through a knowledge transfer training approach.
- Authored and regularly updated numerous scripts, including Jenkins files, to meet evolving project requirements.
- Designed an automation tool for efficient management of Jenkins logs, allowing customization of log retention and branch selection.
- Experimented with Jenkins pipeline configurations to enhance workflow processes.

Undergraduate Research Assistant — May 2023 - August 2023
Supervisor: Prof. Guangzhu Chen — *Remote*
- Proposed SS-Dualflow strategy to incorporate features from both normal and artificially generated abnormal samples into the Deep Learning Dual-Layer 2D Normalizing Flow network (Dualflow).
- Mapped features generated from the network to a Gaussian distribution, reducing information loss in the mapping process and bolstering the network's capacity to comprehend common features in normal regions.
- Integration of the Exponential Space Attention Module into the inner subnetwork of Dualflow enabled the network to prioritize and distinguish anomalous features more effectively.
- The extended experimental outcomes on the MVTec AD dataset showcased an average image-level AUC of 99.38% and an average pixel-level AUC of 98.38%, demonstrating the approach's effectiveness.

Projects

Petpal | *full-stack* — Fall 2023
- Headed a team of 4 in the development of a full-stack pet rescue website, enabling users to locate and report stray pets, access details about nearby rescue centers, and engage in group communication functions.
- Employed Django and Python for implementing the back-end service, while managing the database through MySQL.
- Contributed actively in weekly team meetings, documenting and monitoring teammates' progress.
- Identified and resolved over 6 bugs, successfully clearing more than 20 unit test cases.

Interactive Computational Media Platform | *full-stack* — Fall 2021
- In a multidisciplinary design team of 6, collaborated to deliver an interactive and user-friendly website.
- Applied cutting-edge research methods in human-computer interaction.
- Participated in brainstorming, sketching, and designing prototypes aimed at solving real user problems; evaluated these prototypes for usability, learnability, and usefulness.
- High Fidelity Prototype: https://unionoftrash.github.io/csc318f21-project-project4.0/index.html

Technical Skills

Languages: Proficient in utilizing technologies such as C/C++, Java, Python, R, RStudio, Dr. Racket, HTML, CSS, JavaScript, Docker, Gradle, Ant, and Shell command.
Data Analysis: Well-acquainted with data analysis through Jupyter Notebook, encompassing various modules.
Multilingual: Possesses excellent written and verbal communication abilities in both English and Mandarin.