Sherry Yuxuan Chen

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SKILL HIGHLIGHTS

- Proficient with **Python** and **C**
- Familiar with Numpy, Scikit-learn, Pandas, OpenCV, Pytorch, Keras
- Moderate proficiency with SQL, C++, Java, ARM assembly, VBA, HTML, CSS, Java Script, Prolog, Verilog
- Experienced with ROS, Gazebo, Git, Matlab, postgreSQL, Quartus Prime, perforce, Rational Clearcase, Solidworks

EDUCATION

Candidate for BASc in **Engineering Science**, **Robotics Engineering** Option**,** minor in **Artificial Intelligence**
University of Toronto*, 4th year, GPA:3.66/4.0, September 2016 – May 2021*

PROFESSIONAL EXPERIENCE

Undergraduate Research Assistant*, Robot Vision and Learning Lab, University of Toronto,* *2020 June - present, Toronto, ON*

Research Project: Self-supervised Deep Metric-learning for Video Similarity Search

- Designed and trained a spatial-temporal video similarity learning framework in a self-supervised setting. It uses iterative agglomerative clustering for pseudo-label generation and contrastive learning for metric learning. When given an exemplar video, it retrieves the top k most similar videos based on the high-level semantic understanding.
- Delivered a presentation about the research project to students and faculty members in the summer research program.
- Received Department of Computer Science Undergraduate Research Award at University of Toronto in 2020.

Software Engineer Intern (PEY), *Intel Corporation,* *2019 May - 2020 May, Toronto ON*

- Participated in the development of a data-driven application in Python for correlating software simulation results and silicon testing data for FPGA timing/power analysis.
- Re-designed the data pipeline to compile, simulate, analyze, and visualize over 1,000 design patterns daily with the goal of high parallelism and high efficiency, which reduced the total runtime by 40%.
- Independently re-architected a PostgreSQL database with 1TB of data and over 100 tables for scalability.
- Applied various database techniques to improve the runtime efficiency, which sped up the query performance by 20%.

Lab Teaching Assistant of ROB301 Introduction to Robotics , *UTIAS,* *2019 May - 2019 Nov & 2020 Aug - present, Toronto ON*

- Designed 4 labs and the final project on Turtlebot3 for 3rd year EngSci robotics course ROB301.
- Developed the starter software packages on ROS to interface with various sensors such as IMU, Lidar, and Camera.
- Developed and tested the sample code for robotics algorithms such as PID control, Extended Kalman Filter, and Bayesian Localization.

Software Engineer Coop, *Thales Canada Transportation Solutions*, *2018 May - 2018 September, Toronto ON*

- Implemented code changes to the On-board Controller software in the Singapore digital railway signaling system.
- Designed various testing scenarios to validate code changes in order to optimize the functionality of Automatic Train Protection software.

DESIGN PROJECTS

aUToronto Autodrive Team, *Autonomy Team member,* *2019 August - present*

- Participated in the design of a traffic lights and signs detection system for a level 4 autonomous vehicle to compete in the GM/SAE Autodrive challenge.
- Trained and benchmarked multiple deep learning architectures for detecting and classifying different states of traffic lights and a wide variety of traffic signs (e.g. YOLO, SqueezeNet, R-CNN, etc.).
- Implemented a clustering algorithm on 3D LiDAR point cloud to perform object localization for traffic signs.

UTEK (University of Toronto Engineering Competition) Senior Design Co-Director, *2019 August-present*

- Organized the Senior Design Competition for upper year engineering students.
- Proposed a design challenge to address technological engineering problems using Arduino Robotics Kit.
- Prototyped an autonomous timbit delivery robot using Arduino, DC motor, color sensor and ultrasonic sensor.

Video Game AI for Orbis Challenge, *2018 September*

- Designed a snake game AI in Python for a four-player territory expansion game in a team of 2.
- Ranked top 10 and won Bronze Medal at 2018 Orbis Challenge.

SKILLS AND INTERESTS

U of T Taekwondo Competitive team, Ranked **1st place** in *2017 Toronto Open Taekwondo Championships*