Sherry (Yuxuan) Chen

✉ yuxuansherry.chen@mail.utoronto.ca   🔗 sherry-chen-engsci127

⬛ https://github.com/sherrychen127   🌐 sherrychen127.github.io

Education

2021 – 2023   🔖 **University of Toronto Institute of Aerospace Studies**
MASc. in **Aerospace Engineering**, cGPA: 4.0/4.0

Autonomous Space Robotics Lab (ASRL)
Thesis: *Self-Supervised Feature Learning for Long-Term Visual Localization*
Supervisor: Timothy D. Barfoot

2016 – 2021   🔖 **University of Toronto**
BASc. in **Engineering Science**, **Robotics** major, cGPA: 3.72/4.0, mGPA: 3.94/4.0
Artificial Intelligence minor

Thesis: *Self-Supervised Learning with Iterative Clustering for Human Action Videos.*
Supervisor: Florian Shkurti

Professional Experience

2020.6 - 2021.9   🔖 **Machine Learning Researcher**, University of Toronto   *Toronto, CA*
Robot, Vision and Learning (RVL) Lab
Proposed and implemented a state-of-the-art method for self-supervised video representation learning using PyTorch by iteratively clustering and contrasting embeddings from a 3D ResNet (published in CVPR 2022)

2019.5 - 2020.5   🔖 **Software Engineer Intern**, Intel Corporation   *Toronto, CA*

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. Independently re-architected a PostgreSQL database with 1TB of data for scalability.

2018.5 - 2018.9   🔖 **Software Engineer Intern**, Thales Canada Transportation Solution   *Toronto, CA*

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.

Research Publications

1   **Y. Chen** and T. D. Barfoot, "Self-supervised feature learning for long-term metric visual localization," *IEEE Robotics and Automation Letters*, vol. 8, no. 2, pp. 472–479, 2023. 🔗 DOI: 10.1109/LRA.2022.3227866.

2   **Y. Chen***, S. H. Khorasgani*, and F. Shkurti, "Slic: Self-supervised learning with iterative clustering for human action videos," in *2022 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR Oral)*, 2022, pp. 16 070–16 080. 🔗 DOI: 10.1109/CVPR52688.2022.01562.

(*joint first authors)

Scholarships and Awards

2022-2023   Dr Lorne Heuckroth Scholarship in Aerospace Studies

2020-2021   University of Toronto Department of Computer Science Undergraduate Research Award

2016   Dean's Merit Award

2016-2021   University of Toronto Dean's List

Teaching and Services

2023   **Teaching Assistant** at University of Toronto
ROB521 - Mobile Robotics and Perception

2022   **Teaching Assistant** at University of Toronto
APS112 - Engineering Strategies and Practice

2020-2022   **Lab Teaching Assistant** at University of Toronto
ROB301 - Introduction to Robotics

2022   **Reviewer** for IEEE Robotics and Automation Letters, R-AL 2023

Skills

Languages   **Python**, **C/C**++, MATLAB, Bash, SQL, Julia, Java, VBA, HTML/CSS/Java Script, Prolog, Verilog, ARM assembly, Latex

Libraries   **Pytorch**, **ROS**, Tensorflow, OpenCV, Pandas, Numpy, SciPy, Keras, Jupyter

Tools   **Git**, Gazebo, RViz, postgreSQL, Quartus Prime, perforce, Rational Clearcase, Solidworks

Extracurricular Activities

2019-2020   **UTEK Senior Design Director**
Organized the UTEK (University of Toronto Engineering Competition) Senior Design Competition for senior year engineering students

   aUToronto Autodrive Team (Autonomy Team)
Use deep learning to detect traffic lights and signs for a level 4 autonomous vehicle to compete in the GM/SAE Autodrive challenge

2018   **Game AI for Orbis Challenge**
Ranked top 10 and won Bronze Medal at 2018 Orbis Challenge

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