Quanzhou Li

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Education Background

University of Toronto Sep. 2018 – Jun. 2020
Honours Bachelor of Science with *High Distinction*
Major in Computer Science; Minor in Math
GPA: 3.82/4.00

Beihang University Aug. 2016 – Jul. 2018
Bachelor of Engineering
Major in Computer Science; Double-Major in Math
GPA: 3.83/4.00

Standardized Examination: GRE:325 (V155+Q170)+AW3.5

Paper

Haoyu Xiong, **Quanzhou Li**, Yun-Chun Chen, Homanga Bharadhwaj, Samrath Sinha, Animesh Garg. "Learning by Watching: Physical Imitation of Manipulation Skills from Human Videos". IROS 2021 *under review*. Project: https://www.pair.toronto.edu/lbw-kp/

Internships

Game Engine Developer
Archosaur Games, Beijing May 2021 – Aug. 2021

- Implemented a rendering pipeline with functionalities including rasterizing, lighting, texture mapping without graphics API from scratch (programming test).
- Develop 3D game engine functionalities and tools based on Unreal Engine 4.
- Optimize the 3D game engine for performance.
- Conduct applied research on rendering-related techniques to produce better visual effects.
- Maintain the 3D game engine for our games.

Full Stack Programmer
Dynamic Graphic Project Lab, University of Toronto
Advisor: Prof. Ishtiaque Ahmed May. 2019 – Aug. 2019

- Learned Python Flask Framework and developed a Web Application for Smart City Data Visualization project.
- Implemented functionalities of creating and storing accounts, data visualization, making posts and comments, and sharing with twitter and Facebook.

Research Experiences

People, AI and Robotics Group (PAIR), University of Toronto
Focus: Computer Vision, Imitation from Observation, Reinforcement Learning
Advisor: Prof. Animesh Garg Mar. 2020 – Mar. 2021

- Self-studied Stanford CS234 and Berkeley CS294 reinforcement learning courses.
- Proposed and implemented an approach of physical imitation from human videos for robot manipulation tasks with group members. The performance of our method beats the state-of-the-art models in our experiments.
- Implemented AVID and GAIL-based reward learning models as baselines to compare with our method.
- Wrote our work with group members and submitted it to IROS 2021. The website of our project is https://www.pair.toronto.edu/lbw-kp/

Faculty of Applied Science& Engineering, University of Toronto
Machine Learning and Energy Consumption in a Built Environment (Yearly Capstone Project)
Advisor: Prof. Scott Sanner Aug. 2019 – Apr. 2020

- Participated in the collection, processing, and analysis of the surface temperature data in the Greater Toronto Area, which were derived from the LiDAR and satellite datasets.

- Developed a GIS application with pix2pix algorithm to predict Urban Heat Island effect (surface temperature) in Greater Toronto Area.
- Achieved the translation of the satellite images to heat maps by using the application with an error of less than 1°C on the heat maps.
- Proposed and surveyed the improvement method and feasibility of the model.

State Key Laboratory of Software Development Environment, Beihang University
Research on Chinese Machine Reading Comprehension and Question-answering Based on Deep Learning
Advisor: Prof. Rong Ding Jul. 2018 – Aug. 2018

- Completed the cleaning and statistical analysis of the Chinese reading comprehension dataset from the Baidu Research Open-Access Dataset and analyzed the potential influencing factors.
- Labeled data for training, validating, and testing.
- Participated in the implementation of the reading comprehension model by improving the network structure/Attention mechanism based on the model of RNET and BIDAF.

Institute for Interdisciplinary Information Sciences, Tsinghua University
Towards Optimized Compilation of NFs to Programmable Switch
Advisor: Prof. Wenfei Wu Apr. 2018 – Jul. 2018

- Participated in the development of an optimized compilation of policy intent to a programmable pipeline switch implementation.
- Participated in the research on a heuristic algorithm based on the genetic and greedy algorithm to avoid consuming unacceptable runtime of ILP caused by its complex searching space.
- Researched on the time efficiency and performance of integer programming models and heuristic algorithm.

Key Major Courses

- CSC418 Computer Graphics Grade: A
- CSC384 Introduction to Artificial Intelligence Grade: A
- CSC311 Introduction to Machine Learning Grade: A
- CSC412 Probabilistic Machine Learning Grade: A+
- CSC413 Neural Networks and Deep Learning Grade: A+

Others

Technical skills: C/C++, Python, Julia, Java, Unreal Engine 4, OpenGL, TensorFlow, JavaScript
Honors:

- ✓ College Silver Medal, St. Michael's College, University of Toronto, 2020
- ✓ Dean's List Scholar, Faculty of Arts & Science, University of Toronto, 2020
- ✓ Dean's List Scholar, Faculty of Arts & Science, University of Toronto, 2019
- ✓ Yuanhang Scholarship, Beihang University, 2018
- ✓ Committee Member of the 5th Qiming College Student Congress, 2017-2018
- ✓ Third Prize in Mathematics Competition, Beihang University, 2017
- ✓ Being selected to be an Honors Student at Shenyuan Honors College (Top 5%) 2017
- ✓ Excellent Camper, Beihang New Talents Training Camp, 2016
- ✓ Gold Prize, International Youth Innovation Design Competition, 2014

Hobbies: Piano, Skiing, Music & Movies