YULONG LI

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EDUCATION

Columbia University, New York *September 2018 - May 2023*
B.S. in Computer Science (Graduated Summa Cum Laude)
B.A. in Physics and Mathematics (In Progress)
GPA: 4.06

PUBLICATIONS

Scene Editing as Teleoperation: A Case Study in 6DoF Kit Assemble
Yulong Li*, Shubham Argawal*, Jen-shuo Liu, Steven Feiner, Shuran Song
Intelligent Robots and Systems (IROS) 2022, Webpage

A Simple Proof of PreciseQMA = PSPACE
Yulong Li
Quantum Information Processing (QIP) 2022

*indicates equal contribution

RESEARCH EXPERIENCE

Columbia Artificial Intelligence and Robotics (CAIR) Laboratory Jan. 2021-Present
Advised by Professor Shuran Song

· Research on Robotics and 3D Deep Learning.

Computer Science Theory Group May 2021-May 2022
Advised by Professor Henry Yuen

· Research on Quantum Complexity Theory and Non-local Games.

COURSE PROJECTS

Self-testing Maximally Entangled State with Non-local Games Spring 2022
Quantum Complexity and Cryptography

· Designed protocols to verify the existance of EPR pairs between two parties with rigidity and robustness gurantees.

MemSet: a Neural Algorithm on the Interaction between Working Memory and Long-Term Memory Fall 2021
Computation and Brain

· Proposed an algorithmic explanation on the relationship between transiently active "working memories" and "long-term memories" based on recent progress in experimental neuroscience and experimented the idea with preliminary simulations.

Key Frame Detection of Videos Using DCT and LSH Fall 2020
Information Theory

· Developed an algorithm to detect key frames of a video by utilizing locality-sensitive hashing (LSH) on the discrete cosine transform (DCT) of video frames.

Solving the Fastest Route of a Spaceship by Q-Learning Spring 2020
Modeling the Universe

· Implemented a toy simulation of space and solved for the fastest route of a spaceship travelling between two points using Q-learning.

TEACHING

Teaching Assistant Fall 2022
Introduction to Quantum Computing *Columbia University*

Teaching Assistant Summer 2021, Spring 2021, Summer 2022
Analysis of Algorithms *Columbia University*

Teaching Assistant Spring 2022
Introduction to Computational Learning Theory *Columbia University*

Teaching Assistant Spring 2022
Computational Aspects of Robotics *Columbia University*

Teaching Assistant Spring 2020, Fall 2020
Computer Science Theory *Columbia University*

ACADEMIC SERVICE

Reviewer: ICRA 2023, RA-L 2022