

WENDA CHU

chuw19@mails.tsinghua.edu.cn
+86 13510119658 [Homepage](#)
Shenzhen, Guangdong, China, 518067

EDUCATION

Tsinghua University, Beijing, China
Bachelor of Computer Science, Yao Class, IIIS

September 2019 - Present
Overall GPA: 3.88

RESEARCH EXPERIENCE

Physical world attacks on object detection algorithms

Tsinghua University

Mentor: Xiaolin Hu

June 2021-present

- Designed a pipeline that attacked object detection models in three dimensional physical world by T-shirts textures in two dimensional digital space. Figures of human wearing the T-shirts were rendered using differentiable functions and were randomly transformed to simulate photos taken in the real world.
- We have currently derived smooth and fashionable textures that evade the detection from any direction. (See My Notes on Adversarial Machine Learning.)

SELECTED COURSE PROJECTS

1. Traffic at Peak Hours: A Game Theory View

[Paper](#) [Code](#)

- Modeled the unusual concentration of passengers on one direction of the subway during peak hours as a game and analyzed the detouring actions of passengers that they travel in the reverse direction to assure getting on train.
- The result showed how excessive competition on limited resources such as transportation may cause a huge decrease on social welfare.

2. A Survey on Differential Privacy

[Paper](#)

- Surveyed over differential privacy algorithms and their applications.
- Gained insights of the power of randomness towards provable security.

3. Diversifying Options in Option-Critic Framework of Hierarchical Reinforcement Learning

[Paper](#)

- Implemented Option-Critic architecture and reproduce its result on maze problems
- Introduced intrinsic rewards to option level and enhance option specialization on termination probability.
- Our methods diversified the options in the higher level of hierarchical reinforcement learning.

SKILLS

Programming Skills: Python, PyTorch (proficient), C, C++, Go, SQL, MATLAB, Verilog, L^AT_EX.

Language Skills: Chinese(native), English(TOEFL 111: R30 L30 S24 W27).

GRE: Verbal Reasoning 159, Quantitative Reasoning 169, Analytical Writing 4.0.

HONORS AND AWARDS

- | | |
|---|------|
| • 2nd place in the 35th Chinese Physics Olympiad (CPhO) | 2018 |
| • Scholarship for Freshmen - Tsinghua University | 2019 |
| • Sports Excellence Award - Tsinghua University | 2020 |

SELECTED MAJOR COURSES

Artificial Intelligence: Principles and Techniques (A-, 4.0), Mathematics for Computer Science (A, 4.0), Mathematics for Artificial Intelligence (A-, 4.0), Game Theory (A+, 4.0), Introduction to Data Science (A, 4.0), etc.

[School Report](#)