

# Anson Wong

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## Education

### The University Of Southern California

M.S. IN COMPUTER SCIENCE

LA, U.S.A

Aug. 2018 - Present

### The University Of Hong Kong

B.S. IN COMPUTER SCIENCE

Hong Kong

Sep. 2013 - Jun. 2018

### The University of North Carolina at Chapel Hill

ONE-YEAR EXCHANGE STUDENT

NC, U.S.A

Aug. 2016 - May. 2017

## Experience

### Robotic Embedded Systems Laboratory - USC Robotics Research Lab

RESEARCH ASSISTANT

U.S.A

Oct. 2018 - Present

- Implements reinforcement learning algorithm in tensorflow.

### Undergraduate Research at The University Of North Carolina at Chapel Hill (Prof. Dinesh Manocha)

UNDERGRADUATE RESEARCH ASSISTANT, WORKING ON CROWD SIMULATION AND ROBOT NAVIGATION

NC, U.S.A

Sep. 2016 - May. 2017

- Mixed real-world unannotated videos with synthetic agents in a novel way using simulation tool and unreal engine 4. Modified simulation environment, automated agent models and poses generation procedures.
- Pedestrian detection using Faster-RCNN.
- Experiment obstacle avoidance policies on a turtlebot. Perform coordinate mapping on existing first-person view videos onto 2-dimensional plane which can serve as training data for obstacle avoidance.

### Undergraduate Research at The University Of Hong Kong (Dr. Kenneth Wong)

RESEARCH ON DEEP LEARNING

Hong Kong

Mar. 2016 - May. 2016

- Visualizing learning performance of deep learning models and dynamic generation of deep learning models with high-level parameters.

### Undergraduate Research at The University Of North Carolina at Chapel Hill (Prof. Dinesh Manocha)

RESEARCH FOR GENERATION OF SYNTHETIC CROWD DATASET FOR MACHINE LEARNING

NC, U.S.A

June. 2015 - Sep. 2015

- Fully synthetic crowd dataset generation for crowd understanding using multi-agent simulation tool and unreal engine 4.

### Fundroots Creative Software Ltd.

SOFTWARE ENGINEER (MOBILE APPLICATION, TRADING PLATFORM)

Hong Kong

Aug. 2015 - Aug. 2018

- Trading system backend using Kotlin.
- Android mobile application development.

### DARPA Robotic Challenge

STUDENT MEMBER FOR HKU TEAM

LA, U.S.A

Jun. 2015

- Involved in robot operation. One of the field team member.

### HKU Advanced Robotic Laboratory

STUDENT MEMBER

Hong Kong

Jan. 2015 - Jun. 2015

- Worked on robot arm manipulation. Created a demo in which a humanoid robot drawing on a board.

### Apptask LTD.

MOBILE APPLICATION DEVELOPER

Hong Kong

Jan. 2015 - Jun. 2015

- Worked on additional features for a mobile application which connects to electronic sofas. Stabilized remote connections between mobile application and sofas via bluetooth.

## Extracurricular Activity

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### AIESEC-LC-HKU (Global Youth-run organization)

INFORMATION MANAGEMENT TEAM MEMBER

Hong Kong

Sep. 2014 - Jun. 2015

- Responsible for information management of the organization. Develop a mobile application for event management and registration.

## Honors & Awards

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|------|---|-----------|
| 2016 | <b>Rosita King Ho Scholarship</b> , (Support oversea exchange)                          | Hong Kong |
| 2015 | <b>The Arthur and Louise May Memorial Fund Scholarship</b> , (Support oversea research) | Hong Kong |
| 2013 | <b>Sir Edward Youde Memorial Prizes</b> , (Support academic outstanding students)       | Hong Kong |
| 2012 | <b>Silver Award</b> , Asia International Mathematical Olympiad                          | Hong Kong |

## Presentation

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### 11th Annual Undergraduate Research Symposium

NC, U.S.A

PRESENTING "SYNTHETIC DATA FOR CROWD AND HUMAN UNDERSTANDING"

Apr. 2017

- Introduced the use of synthetic data in crowd understanding. Talked about the advantages over conventional human labelling and how it improved pedestrian detection accuracy.

## Publications

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### MixedPeds: Pedestrian Detection in Unannotated Videos using Synthetically Generated Human-agents for Training

Paper

COAUTHOR

2017

- Accepted in AAAI 2018
- URL: <https://arxiv.org/abs/1707.09100>

### LCrowdV: Generating Labeled Videos for Simulation-based Crowd Behavior

Paper

COAUTHOR

2016

- Accepted in ECCVW 2016
- URL: <http://gamma.cs.unc.edu/LCrowdV/>

## Projects

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### Training Collision Avoidance Policy in Simulation through Deep Reinforcement Learning

Hong Kong

HKU CS FINAL YEAR PROJECT

May. 2017

- Using Unreal Engine 4 to train a collision avoidance policy, which is applicable on a real robot, using state-of-the-art deep reinforcement learning algorithm and several machine learning frameworks.
- url: <https://ahtsan.github.io/rlbot/index.html>

## Personal

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### Github

[HTTPS://GITHUB.COM/AHTSAN](https://github.com/AHTSAN)

### Personal website

[HTTPS://AHTSAN.GITHUB.IO/](https://AHTSAN.GITHUB.IO/)