Anson **Wong**

+1(747)218-9531 | ahtsans@gmail.com | https://ahtsan.github.io/ | ahtsan | ahtsan

Education

The University Of Southern California

CA, U.S.A

M.S. in Computer Science, GPA: 3.5 *Aug. 2018 - Present*

Related Courses: Foundation of artificial intelligence | Analysis of Algorithms | Deep Learning and its Applications

The University Of Hong Kong

Hong Kong

B.S. in Computer Science, GPA: 3.6 *Sep. 2013 - Jun. 2018*

Related Courses: Functional Programming | Computer Vision | Computer and communication networks | Modern Technologies on World Wide Web | Artificial Intelligence | Design and analysis of algorithms | Principles of programming languages

The University of North Carolina at Chapel Hill

NC, U.S.A

one-year exchange student, in Computer Science, GPA: 3.87 *Aug. 2016 - May. 2017*

Related Courses: Introduction to machine learning | Advanced machine learning | Algorithms of motion

Skills

Programming language

Advanced: Python, Java, C#, C++ | Intermediate: Haskell, PHP, SQL, JavaScript, HTML, CSS

- Python: Primary language, working in open source project.
- Java, C#: Familiar with OOP design, Used on several projects/coursework.
- C++: Knowledge in fundamentals. Used in coursework/Unreal Engine.

Tools

ROS, TensorFlow, Keras, Unreal Engine, Git, Docker, Protocol Buffers, gRPC

- TensorFlow: Primary deep learning framework, working in open source project.
- ROS: Worked with turtlebot in SLAM and collision avoidance experiments.

Experience

Robotic Embedded Systems Laboratory - USC Robotics Research Lab

CA, U.S.A

Research Assistant *Oct. 2018 - Present*

- Implements reinforcement learning algorithms in TensorFlow.
- Actively working on an open source reinforcement learning framework called Garage. (URL: `https://github.com/rlworkgroup/garage`)

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

NC, U.S.A

Undergraduate Research Assistant, working on crowd simulation and robot navigation *Sep. 2016 - May. 2017*

- Automated unannotated crowd videos generation. Built with synthetic agents and real-world background using simulation tool and unreal engine 4.
- Experiment obstacle avoidance policies on a turtlebot. (Report: `https://ahtsan.github.io/CAalgo.pdf`)

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

Hong Kong

Student in HKU Computer Vision Group *Mar. 2016 - May. 2016*

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

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

NC, U.S.A

Visiting student *June. 2015 - Sep. 2015*

- Synthetic crowd dataset generation using multi-agent simulation tool and unreal engine 4. (URL: `http://gamma.cs.unc.edu/LCrowdV/`)

HKU Advanced Robotic Laboratory *Hong Kong*

Student member *Jan. 2015 - Jun. 2015*

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

Fundroots Creative Software Ltd. *Hong Kong*

Software Engineer *Aug. 2016 - Aug.2018*

- Worked on a trading system backend.
- Developed an Android mobile application.

Projects

Training Collision Avoidance Policy in Simulation through Deep Reinforcement Learning

HKU CS Final year project

- Using Unreal Engine 4 to train a collision avoidance policy using state-of-the-art Deep Reinforcement Learning algorithm and machine learning frameworks.
- URL: `https://ahtsan.github.io/rlbot/`

3D Face Recognition

Personal project

- Perform 3D Face Recognition on face meshes based on Hausdorff distance. Working on training a neural network from synthesized face meshes.

Honors & Awards

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

11th Annual Undergraduate Research Symposium at UNC-CH *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.

Publication

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

Coauthor *2017*

- Published in AAAI 2018
- URL: `https://arxiv.org/abs/1707.09100`

LCrowdV: Generating Labeled Videos for Simulation-based Crowd Behavior *Paper*

Coauthor *2016*

- Published in ECCVW 2016
- URL: `http://gamma.cs.unc.edu/LCrowdV/`
- Published in Neurocomputing Journal
- URL: `https://doi.org/10.1016/j.neucom.2018.08.085`

Extracurricular Activity

DARPA Robotic Challenge *CA, U S.A*

Student member for HKU Team *Jun. 2015*

- Involved in robot operation.