

# LISHENG WU

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## EDUCATION

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**University College London(UCL)** *Sep 2017 - Nov 2018*  
- MRes Web Science and Big Data Analytics - GPA: 74.7/100 (Distinction)  
**Shanghai Jiao Tong University(SJTU)** *Sep 2013 - Jul 2017*  
- B.S. in Computer Science(IEEE Honor Class) - GPA: 85.8/100 (3.55/4.0)

## PUBLICATIONS

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- [1] Multi-View Reinforcement learning. **L Wu\***, *M Li\*(equal), J Wang, NeurIPS 2019* (accepted).
- [2] Learning To Communicate Implicitly By Actions. *Z Tian, S Zou, T Warr, L Wu, J Wang, AAI 2020.*
- [3] Unsupervised Deep Domain Adaptation for Pedestrian Detection. *L Liu, W Lin, L Wu, Y Yu, M Y Yang, ECCV Workshop 2016* (accepted).

## SKILLS

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**Tools** Caffe, MXNet, Tensorflow, PyTorch, ROS2, AWS  
**Language** Python, C++, CUDA, MATLAB, SQL

## WORK EXPERIENCE

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**Wayve** *Nov 2018 - Jan 2019, Jun 2019 - Now*  
*Research Engineer Cambridge & London*

- Implemented vehicle logging module to subscribe messages from *ROS2* and write them to disk.
- Accelerated image processing from 12fps to over 110fps using *NvMedia API, CUDA* and *TensorRT*.
- Building the reinforcement learning(*RL*) infrastructure in the *RL* team for autonomous vehicles, including rewards, algorithms, visualisations, parallelized accessible replay memory and simulation env.

**Nvidia APAC** *Jul 2017 - Sep 2017*  
*Deeplearning Software Engineer Internship Beijing*

- Created new StarCraft I scenarios on *gym-starcraft* and implemented multiagent RL algorithm *BiCNet*.

## PROJECTS

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**Multi-View Reinforcement Learning** *Jun 2018 - Sep 2018*

- Individually proposed to learn world models for multiple RL environments using shared dynamics, and implemented most of the model design and architecture.
- The trained models represent corresponding states in different environments with very similar feature representations, which can be used to train control model that adapts to all those environments easier.

**Implicit Communications in Bridge Bidding** *Apr 2018 - Sep 2018*

- Individually implemented the bidding environment using *Double Dummy Solver* to compute rewards.
- Helped with the design and implementation of belief module and communication rewards.

**Pedestrian Detection and Tracking** *Jan 2016 - Oct 2016*

- Individually implemented a real-time pedestrian detection system(36fps) based on *ReInspect* algorithm.
- Realized pedestrian tracking by matching features(30fps) and won first place in *MOT16(Now 3rd)*.

## **Unsupervised Deep Domain Adaptation for Pedestrian Detection** *Apr 2016 - Jul 2016*

- Apply MMD loss to the *element-wised product* of the activation and the weights connected to it instead of the *matrix product*. Utilized semi-supervised learning to perform domain adaption.

## **Curiosity-driven based exploration on Montezuma Revenge** *Feb 2017 - May 2017*

- Implemented curiosity-driven based exploration methods on a most challenging atari game *Montezuma Revenge* and achieved 2500 scores on average. Ranked 2nd on *openai leadboard* in 2017.

## **MCTS Based Computer Go** *Nov 2015 - Jan 2016*

- Implemented MCTS, AMAF, UCT algorithms and performed Monte-Carlo rollout with fixed patterns.
- Competed with students in groups with only 3s allowed for each step and won the 3rd out of 16 teams.