# OUYU (LETA) LAN

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## EDUCATION

**University of Southern California**, Los Angeles                                    *May 2020*
*Master of Science in Computer Science*

**Shanghai Jiao Tong University**, Shanghai, China                              *July 2018*
*Bachelor of Engineering in Computer Science and Technology*                      GPA: 3.78

## PUBLICATIONS

- **Ouyu Lan**, Su Zhu, and Kai Yu, "Semi-Supervised Training Using Adversarial Multi-Task Learning for Spoken Language Understanding", in *IEEE International Conference on Acoustics, Speech and Signal Processing* (ICASSP), 2018, pp. 6049-6053. (Oral)
- Su Zhu, **Ouyu Lan**, and Kai Yu, "Robust Spoken Language Understanding with Unsupervised ASR-Error Adaptation", in *IEEE International Conference on Acoustics, Speech and Signal Processing* (ICASSP), 2018, pp. 6179-6183. (Poster)

## WORK EXPERIENCE

**Research Engineer Intern | AISpeech Co., Ltd, China**          *December 2017 - February 2018*
- Developed a semantic understanding system through *PyTorch*, got a 2.4% improvement over the online rule-based system, and applied it in a realistic vehicle-mounted speech dialogue system

**Software Engineer Intern | Hangzhou Fayang Co., Ltd, China**          *July 2016 - August 2016*
- Built a *Windows* software for automatic age and gender estimation based on facial images or videos, and promoted the accuracy of age and gender prediction from 50.7%, 86.8% to 79.6%, 95.2% respectively

## RESEARCH AND PROJECTS

**Sequence Labelling with Multiple Noisy Annotations**          *August 2018 - Present*
- Investigate deep learning methods for named entity recognition with multiple noisy annotations
- Organize and guide an undergraduate to conduct research about natural language processing

**Robust Spoken Language Understanding**          *October 2016 - June 2018*
- Explored adversarial multi-task learning methods for semi-supervised training in Spoken Language Understanding (SLU) and exploited unlabelled data to reach the highest state-of-the-art performance
- Designed an unsupervised model for automatic speech recognition (ASR) error adaptation, obviated the need of annotated ASR hypotheses for slot tagging, and obtained performance close to the Oracle system

**Machine Reading Comprehension**          *May 2017 - June 2017*
- Solved cloze-style questions in consecutive sentences, accomplished a gated-attention framework with the multi-hop and attention mechanism, and improved the performance from 50.00% to 77.90%

**Complex Word Identification**          *March 2017*
- Implemented a complex word identification system by doing feature engineering and information extracting, and achieved good improvement in both English (15%) and Spanish (5%) datasets

**Wireless Network Coding in High-Speed Mobile Environment**          *November 2015 - April 2016*
- Simulated wireless network fountain coding and transmission between server and client through *C/C++* on *Linux*, and kept a relatively high quality with high packet loss rate (up to 90%) and network delay

## SKILLS

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| **Programming Language** | Python, C++/C, Lua, Java, Shell, SQL |
| **Technological Tools** | PyTorch, Torch, Numpy, Caffe, MATLAB, MySQL, GIT, LATEX |
| **Knowledge** | Natural Language Processing, Machine Learning |

## LEADERSHIP AND INVLOVEMENT

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|---|---|
| **Member** | Member in Institute of Electrical and Electronics Engineers (IEEE) *(2018)*, President of class *(2014-2018)*, CTO of College Propaganda Department *(2014-2015)*, Volunteer of Shanghai International Marathon *(2015)* |
| **Awards** | SJTU Academic Excellence Scholarship *(2015-2017)*, Meritorious Winner of Mathematical Contest in Modeling *(2016)*, Xindong Scholarship Award *(2015)* |