

CHIEN-SHENG (JASON) WU

DEEP LEARNING · NATURAL LANGUAGE PROCESSING

☎ (+852) 67650449 | ✉ JASON.WU@CONNECT.UST.HK | 🏠 JASONWU0731.GITHUB.IO

Research Interests

My research interests are machine learning and its applications in natural language processing. My recent work has focused on task-oriented dialogue systems, large-scale fact checking, affective computing, and human-robot interactions. More broadly, I am interested in developing trustworthy and empathetic agents that can interact with people.

Education

MPhil, Hong Kong University of Science and Technology (HKUST), Hong Kong 2017-present

- Electronic & Computer Engineering
- Advisor: Prof. Pascale Fung

Bachelor, National Taiwan University (NTU), Taipei, Taiwan 2012-2016

- Electrical Engineering
- Overall GPA: 3.94/4.30 Major GPA: 4.00/4.30

Research Experience

Salesforce Research, California, USA Aug 2018 - present

- Deep Learning Intern (Advisor: Dr. Caiming Xiong & Dr. Richard Socher)
- Proposed global-to-local memory pointer networks for dialogue response generation. [ICLR]

Center of AI Research (CAiRE), HKUST, Hong Kong 2017 - present

- Graduate Researcher (Advisor: Prof. Pascale Fung)
- Used neural ranker and lexical tags to improve large-scale fact-checking [EMNLP]
- Proposed memory-to-sequence dialogue systems to incorporate knowledge bases. [ACL]
- Proposed dynamic query memory network for system response retrieval. [ICASSP]
- Won second prize in Dialogue System Technology Challenges 2017. [DSTC]

Human Language Technology Center (HLTC), HKUST, Hong Kong 2016

- Research Assistant (Advisor: Prof. Pascale Fung)
- Collaborated in building virtual empathetic android, Zara the Supergirl. [COLING]
- Improved real-time speech emotion recognition and sentiment analysis. [EMNLP]

Automation Laboratory, Academia Sinica, Taiwan 2016

- Research Assistant (Advisor: Dr. Jing-Sin Liu)
- Conducted comparative study on Bezier lane-change curves for unicycle robots. [IEEE ROBIO]

Access IC Lab, NTU, Taiwan 2014 - 2015

- Research Assistant (Advisor: Prof. An-Yeu Andy Wu)
- Proposed hybrid precoding strategy using DFT matrix and k-means algorithm. [IEEE ICSPCC]

Publications (* Equal Contribution)

1. "Global-to-local Memory Pointer Networks for Task-Oriented Dialogue," **Chien-Sheng Wu**, C Xiong, R Socher, *ICLR* 2019. [Under Review]
2. "Improving Large-Scale Fact-Checking using Decomposable Attention Models and Lexical Tagging," **Chien-Sheng Wu***, N Lee*, P Fung, *EMNLP* 2018 (short).
3. "Mem2Seq: Effectively Incorporating Knowledge Bases into End-to-End Task-Oriented Dialog Systems," **Chien-Sheng Wu***, A Madotto*, P Fung, *ACL* 2018 (long).

4. "End-to-End Dynamic Query Memory Network for Entity-Value Independent Task-Oriented Dialog," **Chien-Sheng Wu**, A Madotto, G Winata, P Fung, *IEEE ICASSP* 2018.
5. "Empathetic Dialog Systems," P Fung, D Bertero, P Xu, JH Park, **Chien-Sheng Wu**, A Madotto, *LREC* 2018.
6. "End-to-End Recurrent Entity Network for Entity-Value Independent Goal-Oriented Dialog Learning," **Chien-Sheng Wu***, A Madotto*, G Winata, P Fung, *DSTC* 2017.
7. "Real-Time Speech Emotion and Sentiment Recognition for Interactive Dialogue Systems," D Bertero, F Siddique, **Chien-Sheng Wu**, Y Wan, R Chan and P Fung, *EMNLP* 2016 (short).
8. "Towards Empathetic Human-Robot Interactions," P Fung, D Bertero, Y Wan, A Dey, R Chan, F Siddique, Y Yang, **Chien-Sheng Wu**, R Lin, *CICLing* 2016.
9. "Zara: A Virtual Interactive Dialogue System Incorporating Emotion, Sentiment and Personality Recognition," P Fung, A Dey, F Siddique, R Lin, Y Yang, D Bertero, W Yan, **Chien-Sheng Wu**, *COLING* 2016.
10. "Emo2Vec: Learning Generalized Emotion Representation by Multi-task Training," P Xu, A Madotto, **Chien-Sheng Wu**, JH Park, P Fung, *EMNLP WASSA* 2018.
11. "Bilingual Character Representation for Efficiently Addressing Out-of-Vocabulary Words in Code-Switching Named Entity Recognition," G Winata, **Chien-Sheng Wu**, A Madotto, P Fung, *ACL CS Workshop* 2018.
12. "Joint RF/Baseband Grouping-based Codebook Design for Hybrid Beamforming in mmWave MIMO Systems," **Chien-Sheng Wu**, CH Chen, CR Tsai, and AY Wu, *IEEE ICSPCC* 2016.
13. "Simulations for Time-Optimal Trajectory Planning along Parametric Polynomial Lane-Change Curves for a Unicycle," **Chien-Sheng Wu**, ZY Chiu, JS Liu, *IEEE ROBIO* 2017.

Honors & Awards

Postgraduate Studentship , Electronic & Computer Engineering, HKUST	2017, 2018
Dean's List Award , School of Engineer, HKUST	Spring 2016
Irving T. Ho Memorial Scholarship , Electrical Engineering & Computer Science, NTU - Awarded to 3 undergraduates for outstanding academic performance.	2016
Best Paper Award , IEEE ICSPCC	Aug 2016
First Place , Hackathon, Microsoft Research Asia - Won among 34 universities across China, Taiwan, and Hong Kong.	Aug 2015

Work & Leadership

Teaching Assistant , HKUST - Building Interactive Intelligent Systems (comp4901I / elec4010I)	Spring 2018
Activity Director , NTUEE Student Association - Lead 50+ students to organize 10+ activities for 1000+ NTUEE students	Sep 2014 - Sep 2015

Selected Projects

Embedded System & Web Programming , NTUEE - An interactive boxing game using Raspberry Pi, Arduino and 6-DOF sensors. [demo] - A visualization platform retrieving the referred and cited academic papers. [demo]	Fall 2016
Deep and Structured Machine Learning , NTUEE - Automatic speech recognition (ASR) systems using DNN-HMM, CRF, and RNN. - Visual question answering (VQA) using CNN, word embeddings and random forest.	Fall 2015

Skills & Languages

- PyTorch, TensorFlow, Keras, Theano, Scikit-learn, Caffe, LibSVM
- Python (familiar), C++ (familiar), MATLAB (familiar), JavaScript, Verilog, LaTeX
- English (Fluent), Mandarin (Native)