

Tsung-Hsien (Shawn) Wen

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Research Interests

Deep Learning, Spoken Dialogue Systems, Natural Language Generation, Natural Language Processing, Distributed Semantics, Spoken Language Understanding

Education

- 2014 – Now **University of Cambridge**, Cambridge, UK
Ph.D. in Engineering, Dialogue Systems Group
Supervisor: Steve Young
Research: RNN language generation and end-to-end dialogue modeling
- 2011 – 2013 **National Taiwan University (NTU)**, Taipei, Taiwan
M.Sc. in Computer Engineering, Digital Speech Processing Lab
Supervisor: Lin-shan Lee
Research: Interactive retrieval and personalised language modeling
- 2007 – 2011 **National Taiwan University (NTU)**, Taipei, Taiwan
B.Sc. in Electrical Engineering

Research and Industry Experiences

- 2014 – Now Ph.D. student at Dialogue Systems Group
- *RNN language generation*, github: <https://github.com/shawnwun/RNNLG>
- *End-to-End Dialogue Modelling*, github: <https://github.com/shawnwun/NNDIAL>.
- 2017 – 2017 Research Intern at Google Brain
- 2016 – 2017 Research Consultant at IPSoft Amelia team
- 2011 – 2013 Research Assistant at Digital Speech Processing Lab, NTU
- *MDP-based interactive IR system using RL*.
- *Personalised RNN/N-gram LMs*.
- 2012 – 2013 Algorithm Developer Intern, StorySense Computing, start-up
- Designed and developed backend NLP & ML algorithms using unstructured web data
- 2011 – 2012 Mobile Developer Intern, StorySense Computing, start-up
- Implemented company's first product – WhatsTheNumber (700,000+ total downloads)

Award and Honours

- 2015 **Best Paper Award**, EMNLP
- 2015 **Best Paper Award**, SigDial
- 2014 **Toshiba Research Studentship**, Toshiba Research Europe Ltd
- 2014 **Government Scholarship for Studying Overseas**, MOE of Taiwan
- 2013 **Best Student Paper Shortlist**, InterSpeech
- 2012 **Best Student Paper Shortlist**, InterSpeech

Publications

1st author publication only, please see my [Google Scholar Page](#) for full publication list.

1. Tsung-Hsien Wen, Y. Miao, P. Blunsom, and S. Young, "Latent Intention Dialogue Models", In Proc. **ICML 2017**.
2. Tsung-Hsien Wen, M. Gasic, N. Mrksic, L. M. R-Barahona, P.-H. Su, S. Ultes, D. Vandyke, and S. Young, "Conditional Generation and Snapshot Learning in Neural Dialogue Systems", In Proc. **EMNLP 2016**.
3. Tsung-Hsien Wen, D. Vandyke, N. Mrksic, M. Gasic, L. M. R-Barahona, P.-H. Su, S. Ultes, and S. Young, "A Network-based End-to-End Trainable Task-oriented Dialogue System", In Proc. **EACL 2017**.
4. Tsung-Hsien Wen, M. Gasic, N. Mrksic, L. M. R-Barahona, P.-h. Su, D. Vandyke, S. Young, "Multi-domain Neural Network Language Generation for Spoken Dialogue Systems", In Proc. **NAACL-HLT 2016**.
5. Tsung-Hsien Wen, M. Gasic, N. Mrksic, L. M. R-Barahona, P.-h. Su, D. Vandyke, S. Young, "Toward Multi-domain Language Generation using Recurrent Neural Networks", In **NIPS workshop 2015**, Machine Learning for SLU & Interaction.
6. Tsung-Hsien Wen, M. Gasic, N. Mrksic, P.-h. Su, D. Vandyke, S. Young, "Semantically Conditioned LSTM-based Natural Language Generation for Spoken Dialogue Systems", In Proc. **EMNLP 2015**. (Best Paper Award)
7. Tsung-Hsien Wen, M. Gasic, D. Kim, N. Mrksic, P.-h. Su, D. Vandyke, S. Young, "Stochastic Language Generation in Dialogue using Recurrent Neural Networks with Convolutional Sentence Reranking", In Proc. **SigDial 2015**. (Best Paper Award)
8. Tsung-Hsien Wen, A. Heidel, H.-y. Lee, Y. Tsao, L.-s. Lee, "Recurrent Neural Network-based Personalized Language Modeling by Social Network Crowdsourcing", In Proc. **Interspeech 2013**. (Best Paper Nominee)
9. Tsung-Hsien Wen, H.-y. Lee, P.-h. Su, L.-s. Lee, "Interactive Spoken Content Retrieval by Extended Query Model and Continuous State Space Markov Decision Process", In Proc. **ICASSP 2013**.
10. Tsung-Hsien Wen, H.-y. Lee, T.-Y. Chen, L.-s. Lee, "Personalized Language Modeling by Crowd Sourcing with Social Network Data for Voice Access of Cloud Applications", In Proc. **SLT 2012**.
11. Tsung-Hsien Wen, H.-y. Lee, L.-s. Lee, "Interactive Spoken Content Retrieval with Different Types of Actions Optimized by a Markov Decision Process", In Proc. **Interspeech 2012**. (Best Paper Nominee)
12. Tsung-Hsien Wen, "Voice Access of Cloud Applications: Language Model Personalization and Interactive Spoken Content Retrieval", **Master Thesis**, National Taiwan University.

Invited Talks and Lectures

Deep Learning for Natural Language Generation, **INLG 2016 Tutorial**

Task-oriented Neural Dialogue Systems, **Google HQ, Apple Siri Cambridge, TTIC, NTU**

Beyond Conditional LM: NN Language Generation for SDS, **Heriot Watt University**.

Lecture on Statistical Natural Language Generation, MPhil course on SDS, **University of Cambridge**

Neural Language Generation for SDS, **Xerox Research Centre Europe, University of Sheffield**

Semantically Conditioned LSTM-based NLG for SDS, **University of Cambridge**

Scalable NLG for Open Domain SDS, **Baidu Beijing, Academic Sinica Taiwan**

Reference

Processor Steve Young – University of Cambridge Engineering Department – sjy@eng.cam.ac.uk

Processor Milica Gasic – University of Cambridge Engineering Department – mg436@cam.ac.uk

Professor Lin-Shan Lee – National Taiwan University – lslee@gate.sinica.edu.tw

Mr. Edward Shen – Founder of S.S. Computing, now COO at 电话邦- edward.shen@yulore.com