Ziming Li, Ph.D.

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My research interest is developing advanced dialogue systems, including both open-domain and task-oriented dialogue systems. I'm also interested in the fields of information retrieval and optimizing interactive systems by learning from users.

Education and Experience

07/2021 – present
Applied Scientist, Amazon Alexa AI, Seattle, USA

03/2021 – 05/2021
Post-doc, University of Amsterdam, Netherlands
Supervisor: Prof. Dr. Evangelos Kanoulas
Research Topic: Dialogue systems and Learning through interaction

09/2016– 02/2021
PhD Candidate, University of Amsterdam, Netherlands
Supervisor: Prof. Dr. Maarten de Rijke
Co-Supervisor: Dr. Julia Kiseleva
Research Topic: Information Retrieval, Dialogue systems and Inverse Reinforcement Learning

09/2013 – 07/2016
M.Sc. Computer Science, Xiamen University, China
Supervisor: Dr. Xiangrong Liu
Research Topic: Membrane Computing, Bioinformatics
Thesis Title: Research on Some Mathematical Problems Based on Time-free P Systems (9.2/10, Outstanding Master Thesis Title)

09/2009 – 07/2013
B.Sc. Computer Science, Xiamen University, China
Thesis Title: Parameterization of Triangular Meshes (graded 8.9/10, Outstanding Bachelor Thesis Title)

Internships

05/2019 - 08/2019
Deep Learning Group, Microsoft Research, Redmond
we proposed a guided dialogue policy training method without using adversarial training in the loop.

05/2020 - 08/2020
Amazon Alexa, Seattle
we proposed a context-sensitive method to estimate the turn-level satisfaction for dialogue considering various types of user preferences.

Research Publications

1. Kiseleva, J., **Li, Z.**, Aliannejadi, M., Mohanty, S., ter Hoeve, M., Burtsev, M., … Srinet, K. et al. (2022). Interactive grounded language understanding in a collaborative environment: Iglu 2021. In *Neurips 2021 competitions and demonstrations track* (pp. 146–161). PMLR.

2. **Li, Z.**, Kiseleva, J. & de Rijke, M. (2021). Improving response quality with backward reasoning in open-domain dialogue systems. *SIGIR 2021*.

3. **Li, Z.**, Park, D., Kiseleva, J., Kim, Y.-B. & Lee, S. (2021). A data-driven approach to estimate user satisfaction in multi-turn dialogues. *arXiv preprint arXiv:2103.01287*.

4. **Li, Z.**, Kiseleva, J., Agarwal, A., de Rijke, M. & White, R. W. (2020). Optimizing interactive systems via data-driven objectives. *arXiv preprint arXiv:2006.12999*.
5. **Li, Z.**, Kiseleva, J. & de Rijke, M. (2020). Rethinking supervised learning and reinforcement learning in task-oriented dialogue systems. *Findings of EMNLP 2020*.
6. **Li, Z.**, Lee, S., Peng, B., Li, J., Kiseleva, J., de Rijke, M., … Gao, J. (2020). Guided dialogue policy learning without adversarial learning in the loop. *Findings of EMNLP 2020*.
7. **Li, Z.**, Kiseleva, J., Agarwal, A. & de Rijke, M. (2019). Learning data-driven objectives to optimize interactive systems. *LIRE workshop, NeurIPS 2019*.
8. **Li, Z.**, Kiseleva, J. & de Rijke, M. (2019). Dialogue generation: From imitation learning to inverse reinforcement learning. *AAAI 2019*.
9. **Li, Z.** & de Rijke, M. (2017). The impact of linkage methods in hierarchical clustering for active learning to rank. *SIGIR 2017*, 941–944.
10. **Li, Z.**, Kiseleva, J., de Rijke, M. & Grotov, A. (2017). Towards learning reward functions from user interactions. *ICTIR 2017*, 289–292.
11. Liu, X., **Li, Z.**, Liu, J., Liu, L. & Zeng, X. (2015). Implementation of arithmetic operations with time-free spiking neural p systems. *IEEE transactions on nanobioscience*, *14*(6), 617–624.
12. Liu, X., **Li, Z.**, Suo, J., Liu, J. & Min, X. (2015). A uniform solution to integer factorization using time-free spiking neural p system. *Neural Computing and Applications*, *26*(5), 1241–1247.
13. Liu, X., Suo, J., **Li, Z.**, Zou, Q., Liu, J. & Ju, Y. (2015). Reusable logic gates based on dna strand branch migration. *Journal of Computational and Theoretical Nanoscience*, *12*(8), 1624–1629.
14. Liu, X., **Li, Z.**, Suo, J., Ju, Y., Liu, J. & Zeng, X. (2014). Solving multidimensional 0-1 knapsack problem with time-free tissue p systems. *Journal of Applied Mathematics*.

Academic Activities

- Reviewer for CIKM'22, CIKM'21, AAAI'23, AAAI'22, AAAI'21, AAAI'20, TOIS, IPM and Information Retrieval Journal
  Sub-reviewer for ECIR'18, SIGIR'18, CIKM'18, NAACL'19 and SIGIR'19
- Organizer for Neurips 2021 competition "IGLU: Interactive grounded language understanding in a collaborative environment"
- Organizer for Neurips 2022 competition "IGLU: Interactive grounded language understanding in a collaborative environment"
- European Summer School in Information Retrieval 2017, Barcelona, Spain

Skills

Tools & Technologies — Numpy, PyTorch, Tensorflow, PySpark
Coding — Python, C, LaTeX

Awards and Achievements

2014 — National Scholarship for outstanding Postgraduate students, China
2015 — National Scholarship for outstanding Postgraduate students, China

Teaching Experience

TAing
- Information Retrieval 1 (2018), University of Amsterdam, Netherlands

Supervision
- Two Master theses (2018), University of Amsterdam, Netherlands
  - Title: *Cyclists' Route Choice in Amsterdam: Finding Factors of Influence and Predicting Cyclists' Route ChoicE*, with Chris Olberts
  - Title: *How to measure a neighborhood: Exploring geo-spatial data enrichment and neighborhood embeddings for housing price prediction*, with Guus Bobeldijk
- Two Master theses (2019), University of Amsterdam, Netherlands
  - Title: *Text Classification for Ground Lease Documents*, with Rouel de Romas
  - Title: *Predicting salary using Job posting data*, with Roma Bakhyshov

Languages

Native
- Chinese

Professional working proficiency
- English