Weichen Li

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Key Words

NLP, Machine Learning, Reinforcement Learning

Languages

Chinese, English, German

Programming Languages

Python, Java

Hobbies

Tennis

References

Prof. Dr. Sophie Fellenz
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About me

I am a third-year Ph.D. student in the Machine Learning group at the University of Kaiserslautern-Landau, supervised by Professor Sophie Fellenz. My focus is on Deep Reinforcement Learning and the applications of Natural Language Processing. The goal of my work is to create socially adept AI agents and implementing language-centered RL agents in practical settings. I thrive on exploring new challenges.

Research Interests

- **Language-centric RL**: Many stable RL algorithms have not yet been directly utilized in language-based RL agents. This prompts a crucial research question: Can well-established RL algorithms be successfully adapted to operate in language-centric contexts? Our experimentation with text-based adventure games, employing popular algorithms like SAC, demonstrates that with minor adjustments, SAC can indeed be effectively adapted for text-based scenarios [2].
- **Safety RL**: With the increasing capibilites of RL agents, ensuring the morally responsible behavior of an agent is a growing concern. Our goal is to align human or LLM-labeled moral scores with the RL agent. Employing constrained RL, the text-based agent can maximizes rewards while operating within specified constraints [3].
- **Explainable Multimodal-based RL**

Education

2021 - Present University of Kaiserslautern-Landau,Germany
Ph.D candidate in Computer Science, Machine Learning Group

2018 - 2021 Ludwig Maximilian University of Munich, Germany
Master degree in Computational Linguistics and Computer science

2015 - 2018 University of Bamberg, Germany
Bachelor degree in Sociology and Computer Science

Publications

2022 [1]**W. Li**.et.al., **Topic-Guided Knowledge Graph Construction for Argument Mining**.
IEEE International Conference on Big Knowledge(ICBK)

2023 [2]**W. Li**, R. Devidze, S. Fellenz. **Learning to play text-based adventure games with maximum entropy reinforcement learning**.
European Conference on Machine Learning and Data Mining (ECML PDKK)

2024 [3]**W. Li**, R. Devidze, W. Mustafa, and S. Fellenz. **Ethics in Action: Training Reinforcement Learning Agent for Moral Decision-making In Text-based Adventure Games**.
(To appear)Proceedings of International Conference on Artificial Intelligence and Statistics (AISTATS)