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xufeng-zhao-961a82286

WHY ME?

"Focused, diving into details required for effective solutions; but also consciously training myself to maintain a big picture."

I am passionate about advancing AI by developing intelligent agents, both virtual and physical, to enhance human life. My research interests form a synergistic triangle:
- Large language models (vast knowledge representation and flexible access)
- Reinforcement learning (exploration & exploitation)
- Robotics (embracing reality!)

With these, I am optimistic about driving the evolution of practical and intelligent agents for the future.

SKILLS

- Python
- Matlab
- C/C++
- Java (Android)

LANGUAGES

- Chinese
- English
- German

XUFENG ZHAO

PH.D. CANDIDATE

EDUCATION

2021 - 2025

University of Hamburg — Hamburg, DE

PH.D. IN COMPUTER SCIENCE

Supervisor: Prof. Dr. Stefan Wermter. Focusing on intelligient robot development with reinforcement learning, multimodal representation learning and large language models.

2015 - 2018

University of Chinese Academy of Sciences

M.S. IN COMMUNICATION AND INFORMATION — Beijing, CN

Supervisor: Prof. Dr. Daojing Li. Worked in areas of digital signal processing, e.g., multipath clutter suppression, denoising and machine learning.

2010 - 2014

Xidian University — Xi'An, CN

B.E. IN ELECTRONIC INFORMATION ENGINEERING

WORK EXPERIENCE

2018 - 2020

JD.COM, Inc. — Beijing, CN

ARTIFICIAL INTELLIGENCE ALGORITHM ENGINEER

At JD.com Inc., one of China's largest B2C **e-commerce platforms**, I contributed to projects aimed at a) driving profit growth, b) reducing costs, and c) enhancing user experience. Key projects included:

- Smart vending machine sales forecasting and product recommendation (a, b)
- Automating medical information extraction for smart medical containers (a)
- Automated customer service for after-sales orders/requests (b)
- Harmful message detection for merchant-customer instant messaging App (c)
- Assessment of images and text reviews for consumer review ranking (a, c)

2015 - 2015

Extantfuture.com, Inc. — Beijing, CN

SIGNAL PROCESSING ENGINEER

Contributed to the development of an innovative **wearable device** for pregnant women that passively collects multisensory data without requiring active transmission. The accompanying mobile App offers real-time monitoring of fetal health, ensuring comprehensive care for both the fetus and the mother. My primary responsibility was the development of a signal processing system to monitor fetal heart rate, fetal movement, and the mother's basic activities.

AWARD & GRANTS

2024
- ICRA@40 TRAVEL GRANTS — IEEE Robotics and Automation Society
- RESEARCHER ACCESS PROGRAM OF OPENAI — OpenAI

2017
- ACADEMIC SCHOLARSHIP — University of Chinese Academy of Sciences

2016
- ACADEMIC SCHOLARSHIP — University of Chinese Academy of Sciences

2015
- ACADEMIC SCHOLARSHIP — University of Chinese Academy of Sciences
- EXCELLENT STUDENT CADRE — University of Chinese Academy of Sciences
- TRIPLE-A STUDENT — University of Chinese Academy of Sciences

2013
- THE SECOND PRIZE OF CHINA UNDERGRADUATE MATHEMATICAL CONTEST IN MODELING — China Society for Industrial and Applied Mathematics

2012
- THE SECOND PRIZE OF XIDIAN'S ELECTRONIC COMPETITION — Xidian University
- THE FIRST PRIZE OF XIDIAN'S MATHEMATICAL CONTEST IN MODELING — Xidian University

ACTIVITIES

- 2024 — oral presentation at **ICRA@40**, Rotterdam, Netherlands
- 2024 — oral presentation at **COLING**, Turin, Italy
- 2023 — oral presentation at **IROS**, Detroit, USA
- 2023 — poster presentation at **ICML**, Hawaii, USA
- 2022 — oral presentation at **IROS**, Kyoto, Japan

REVIEWS

2025	IROS 2025	x2	#conferenc
	RAS	x1	#journal
	RA-L	x1	#journal
	ICLR 2025	x3	#conferenc
	ICRA 2025	x2	#conferenc
	EMNLP 2024	x1	#workshop
	Humanoids	x1	#conferenc
	IROS	x2	#conferenc
2024	COLING	x1	#conferenc
2023	PeerJ Computer Science	x1	#journal

TEACHING

Thesis Supervision

Task-Agnostic Policy Distillation: Continual Deep Reinforcement Learning with Alternating Self-Supervised Prediction, Kerim Erekmen, BSc thesis, 2023, University of Hamburg.

Seminar Supervision

- Robust RGB-D to 3D mesh Construction for Robotic Simulation, Neural Networks Seminar 2024, University of Hamburg
- LLM Fine-tuning with News Data, Bio-inspired Artificial Intelligence Seminar 2023, University of Hamburg
- Survey on Deployable LLMs, Neural Networks Seminar 2023, University of Hamburg
- Unsupervised Skill Discovery Implementation, Bio-inspired Artificial Intelligence Seminar 2022, University of Hamburg
- Survey on Transformers in Reinforcement Learning, Bio-inspired Artificial Intelligence Seminar 2022, University of Hamburg
- …

Lecture

Lectures on large language models, 2024 master course on neural networks, University of Hamburg

TALKS

RL, LLM Boosted Agents | Shanghai RobotGym Co., Ltd (如身机器人)

PUBLICATIONS

as (co-) 1st author

- **Zhao, X.,** Weber, C., & Wermter, S. (2024). Agentic skill discovery. CoRL 2024 Workshop / ICRA@40.
- **Zhao, X.**, Li, M., Lu, W., Weber, C., Lee, J. H., Chu, K., & Wermter, S. (2024, May). Enhancing Zero-Shot Chain-of-Thought Reasoning in Large Language Models through Logic. 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024).
- **Zhao, X.**, Li, M., Weber, C., Hafez, M. B., & Wermter, S. (2023). Chat with the environment: Interactive multimodal perception using large language models. 2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 3590–3596.
- Li, M.*, **Zhao, X.***, Lee, J. H., Weber, C., & Wermter, S. (2023). Internally rewarded reinforcement learning. In Proceedings of the 40th International Conference on Machine Learning (ICML, Vol. 202, pp. 20556–20574).
- **Zhao, X.**, Weber, C., Hafez, M. B., & Wermter, S. (2022). Impact Makes a Sound and Sound Makes an Impact: Sound Guides Representations and Explorations. 2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2512–2518. **Zhao, X**., Li, D., & Hu, X. (2018). Multi-path clutter suppression in

as 2nd author

- Chu, K., **Zhao, X.**, Weber, C., & Wermter, S. (2025). LLM+ MAP: Bimanual Robot Task Planning using Large Language Models and Planning Domain Definition Language. (under review)
- Zhang, H., **Zhao, X.**, Molybog, I., & Zhang, J. (2025). REAL: Response Embedding-based Alignment for LLMs. (under review)
- Lu, W., **Zhao, X.**, Spisak, J., Lee, J. H., & Wermter, S. (2025). Mental modeling of reinforcement learning agents by language models. Transactions on Machine Learning Research (TMLR).
- Chu, K., **Zhao, X**., Weber, C., Li, M., Lu, W., & Wermter, S. (2024). Large language models for orchestrating bimanual robots. The 2024 IEEE-RAS International Conference on Humanoid Robots.
- Sun, X., **Zhao, X**., Lee, J. H., Lu, W., Kerzel, M., & Wermter, S. (2024, June 14). Details Make a Difference: Object State-Sensitive Neurorobotic Task Planning. The 33rd International Conference on Artificial Neural Networks (ICANN 2024).
- Lu, W., **Zhao, X**., Magg, S., Gromniak, M., Li, M., & Wermter, S. (2023). A Closer Look at Reward Decomposition for High-Level Robotic Explanations. 2023 IEEE International Conference on Development and Learning (ICDL), 429–436.
- Chu, K., **Zhao, X.**, Weber, C., Li, M., & Wermter, S. (2023,