

Keyu Wang

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EDUCATION

University of Tuebingen

M.Sc. in Machine Learning

Tuebingen, Germany

Oct. 2024 – Present

Cumulative GPA: 1.29 (Germany System: 1.0 is the best, 5.0 is the lowest)

Relevant coursework: Non-convex Optimization of Deep Learning, etc.

Southeast University

B.Eng. in Artificial Intelligence

Nanjing, China

Sep. 2020 – Jun. 2024

Cumulative GPA: 3.79/4.00 (Chinese System: 4.0 is the best, 0 is the lowest)

Relevant coursework: Linear Algebra, Calculus, Optimization Method, Probability Statistics & Stochastic Processes, Data Structures, Database, Distribute Systems, Machine Learning, Deep Learning, Computer Vision, etc.

RESEARCH INTERESTS

- **Machine Learning Systems:** Efficient training, fine-tuning, deployment and inference via system/hardware co-design, such as quantization and pruning.
- **Optimization:** Convex & Non-convex Optimization, theoretical understanding of DNNs and LLMs, etc.
- **Generative AI:** Large Language Models, Diffusion Models, Multimodal Large Language Models, etc.
- **Neuro-Symbolic AI:** Knowledge Representation & Reasoning, Modern Search Engines, Expert Systems & Semantic Search, Safe & Explainable NLP Models, Graph Theory, etc.

PUBLICATIONS & PREPRINTS

Conference paper

[1] **Can Large Language Models Understand DL-Lite Ontologies? An Empirical Study.**

Keyu Wang, Guilin Qi, Jiaqi Li and Songlin Zhai. In Findings of the Association for Computational Linguistics: EMNLP 2024, pages 2503–2519. <https://aclanthology.org/2024.findings-emnlp.141/>

[2] **An Embedding-based Approach to Inconsistency-tolerancy Reasoning with Inconsistent Ontologies.**

Keyu Wang, Site Li, Jiaye Li, Guilin Qi and Qiu Ji. In Proceedings of The 12th International Joint Conference on Knowledge Graphs (IJCKG 2023). <https://arxiv.org/abs/2304.01664>

Preprint

[1] **Embedding Ontologies via Incorporating Extensional and Intensional Knowledge.**

Keyu Wang, Guilin Qi, Jiaoyan Chen, Yi Huang and Tianxing Wu. arXiv, 2024. <https://arxiv.org/abs/2402.01677>

RESEARCH EXPERIENCE

Knowlegde Science & Engineering Group, Southeast University

Undergraduate researcher | Supervisor: Prof. Dr. Guilin Qi

Nanjing, China

Jan. 2022 – Jul. 2024

- Investigated on neuro-symbolic knowledge representation and reasoning, especially, reasoning and embedding with knowledge-based and web-based systems such as knowledge graphs and ontologies.
- Led three research projects and produced three first-author manuscripts, two of which were accepted by EMNLP 2024 Findings and IJCKG 2023, respectively.

INTERNSHIP

BSH Home Appliances Holding (China) Co., Ltd

Research intern | Mentor: Rick Du, Huilong An

Nanjing, China

Jul. 2023 – Jun. 2024

- **AI enabled efficient R&D in Wash Machine/Dryer:** Bridged the logical and casual relationships among hardware platform, program design, test standard, intermediate data and performances of Bosch and Siemens wash machines, especially, built a predictive model via deep learning to predict washing performances.

EXTRACURRICULAR

Study advisor for freshman undergraduates Sep. 2022 – Jun. 2023
Engineering leader & co-founder of Artificial Intelligence Association of Southeast University [SEU-131AIClub]
May 2022 – Jun. 2023
Student lecturer for the course *An Entertaining Introduction to AI at the Second Class for Students* held jointly by
SEU-131AIClub and the Department of CSE of Southeast University Sep. 2022 – Dec. 2022

SKILLS

Programming: Python (PyTorch), C/C++, Java, etc.

Tools: VS Code, Jupyter Notebook, Shell, MATLAB, HTML/CSS/JavaScript, \LaTeX , Markdown, etc.

Languages: Chinese (Native), English (IELTS 7.5), German (Beginning).