Zhou Gui

Born: 08.09.1994 in Jiangsu, China

Work Experience

10/2019 –
10/2025 **Research Associate**, *Friedrich-Alexander-University Erlangen-Nürnberg, Germany*
Conducted research in Machine Learning applications within the Internet of Things domain, with a focus on Data Modeling, Knowledge Representation, Large Language Models (LLM), and Generative AI Agents; Tutored multiple courses including Introduction to Computer Science, Foundations of Linked Data, and Big Data; Supervised student projects as well as Bachelor's and Master's theses; Contributed to organizational activities such as organizing seminars, workshops, and conferences.

Education

11/2021 –
Now **PhD**, *Friedrich-Alexander-University Erlangen-Nürnberg, Germany*
Topic: Natural Language Interface for IoT Systems, project funded by Fraunhofer IIS

04/2017 –
05/2019 **Master**, *Friedrich-Alexander-University Erlangen-Nürnberg, Germany*
Information and Communication Engineering

09/2012 –
06/2016 **Bachelor**, *Nanjing University of Post and Telecommunication, China*
Broadcasting and Telecommunication Engineering

Selected Technical Projects

01/2025 –
08/2025 **Knowledge Extraction from Company Websites with LLM Agents**
Developed a pipeline using LLM agents to automatically extract key company information from company websites in the semiconductor domain. Role: project lead.

02/2021 –
01/2022 **Text2Turtle: Open Information Extraction on German Text**
Software Campus Project in cooperation with DATEV: created a German dataset for information extraction and two systems to extract triples from unstructured text. Role: academic lead.

04/2020 –
01/2021 **Limmersio: Immersive Language Learning Tool**
Digital Tech Academy project: developed a startup prototype for a language learning platform that gradually replaces target vocabulary within daily readings. Role: backend algorithm developer.

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12/2018 –	**Deep Metric Learning for Content Based Image Retrieval**
06/2019	[Master Thesis] Used deep convolutional neural networks as image feature extractors and deep metric learning to adapt the learnt feature embedding for image retrieval task.

Extracurricular Experience

05/2025 –	**BCG Platinion She's Got IT**
05/2025	Two-day intensive program in BCG Platinion Office in Frankfurt, real-life case studies on digitization transformation for health insurer company.
11/2024 –	**Accenture Female Talent Event**
11/2024	Three-day intensive program in Accenture Office in München, various case studies on strategy consulting and workshops about GenAI in the Energy&Utility branch.
08/2024 –	**Women in HPC Mentoring Program**
01/2025	Half-a-year mentoring program organized by Women in High Performance Computing as mentor and mentee.
09/2021 –	**ISACT Summer School**
09/2021	One-week International Summer School on Situation Awareness in Cognitive Technologies in Otto-von-Guericke-Universität Magdeburg.
04/2020 –	**FAU Digital Tech Academy**
01/2021	One-year elite program for entrepreneurial and tech talents at Friedrich-Alexander University, educating future digital changemakers.
07/2019 –	**Young Engineer Seminar from EUREL/VDE**
07/2019	Three-day workshop in Brussel on the topic of power grid techniques.

Awards and Certificates

03/2024	**Certificate**, *Scrum Master*
	Professional Scrum Master 1 certified by Scrum.org
07/2023	**Award**, *ING Deutschland*
	Second place in HerHackathon 2023 (over 250 participants), challenge: Financial Fair Share
09/2021	**Award**, *Siemens healthineers*
	First place in WomenHackAI hackathon (over 100 applicants), challenge: Text Simplification with GPT-3 and BERT
07/2019	**Award**, *Fraunhofer IIS*
	Second place in Fraunhofer Hackathon (over 50 participants) about warehouse data mining
2012 – 2015	**Scholarships**, *Nanjing University of Post and Telecommunication*
	Scholarship from university for excellent students for four years

Language Skills

Chinese	Native speaker
English	Fluently (GRE 315/340)
German	Fluently (C1/DSH2)

Publications

2025 **Semantic Reasoning for Device Identification in Dynamic Internet of Things Environments with Large Language Models**
Gui Z., Kuty L., Daniel S., Harth A., NLDB 2025: The 30th International Conference on Natural Language & Information Systems. Kanazawa, Japan

2024 **A Context-aware Conversational Interface for Controlling Internet-of-Things Devices**
Gui Z., Freund M., Harth A. IoT 2024: Proceedings of the 14th International Conference on the Internet of Things 2024. Oulu, Finland

2024 **A Natural Language Interface for IoT Systems Using the Web of Things Abstraction**
Gui Z., Freund M., Harth A., IoT 2023: Proceedings of the 13th International Conference on the Internet of Things. Nagoya, Japan

2023 **Design and Implementation of a Natural Language Interface for Controlling the Web of Things Devices**
Gui Z., Kuty L., Harth A., NLDB 2024: The 29th International Conference on Natural Language & Information Systems. Turin, Italy

2022 **Open Information Extraction on German Wikipedia Texts**
Klose C., Gui Z., Harth A., Text2KG 2022: International Workshop on Knowledge Graph Generation from Text, Co-located with the ESWC 2022, Greece

2021 **Towards a Data Driven Natural Language Interface for Industrial IoT Use Cases**
Gui Z., Harth A., ICHMS 2021: Proceedings of the 2021 IEEE International Conference on Human-Machine Systems, Magdeburg, Germany

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