# Yahui Fu

Program-Specific Researcher at Kyoto University, Kyoto, Japan
Email: fu.yahui.6v@kyoto-u.ac.jp/ fu.yahuiii@gmail.com
Homepage: https://fuyahuii.github.io

## Research Interests

**Conversational AI**

- Empathetic response generation
- Personality-aware dialogue generation
- Multimodal emotion recognition
- Human-robot/ agent interaction

**Explainable and Controllable LLMs**

- Causal reasoning in LLMs
- Knowledge graph modeling
- Interpretable evaluation

## Education

**Kyoto University**                                                                  Kyoto, Japan
Ph.D. in Intelligence Science and Technology, Graduate School of Informatics          Oct. 2021 –Sep. 2024

- Thesis: *Dialogue Comprehension and Personalization for Empathetic Response Generation*
- Supervisor: *Prof. Tatsuya Kawahara*

**Japan Advanced Institute of Science and Technology**                                Nomi, Japan
M.E. in Information Science, School of Advanced Science and Technology                 Apr. 2020 –Jun. 2021

- Thesis: *Conversational Semantic- and Knowledge-guided Graph convolutional Network for Multimodal Emotion Recognition*
- Supervisor: *Prof. Shogo Okada*

**Tianjin University**                                                                Tianjin, China
M.E. in Computer Technology, Department of Intelligence and Computing                 Sep. 2018 –Jun. 2021

- Thesis: *A Study on Context-independent and Context-dependent Emotion Recognition*
- Supervisor: *Prof. Longbiao Wang*

## Experience

**Kyoto University**                                                                  Kyoto, Japan
Program-Specific Researcher                                                           Oct. 2024 - current

- Bridging the gap to human-like conversational LLMs by evaluating and enhancing their expression of psychological traits.

**rinna Co., Ltd.**                                                                   Tokyo, Japan
Research Intern                                                                       Jul. 2023 - Sep. 2023

- Personality recognition in monologue and dialogue using the realpersonachat corpus.

**Japan Advanced Institute of Science and Technology**                                Nomi, Japan
Researcher                                                                            Jul. 2021 - Sep. 2021

- Multimodal (speech, linguistics) and knowledge graph modeling for emotion recognition.

## Scholarships and Awards

- Outstanding Research Award, awarded by Kyoto University ICT Collaboration Promotion Network.          Feb. 2024
- SPRING Fellowship, awarded by Japan Science and Technology Agency (JST).                               Oct. 2021–Sep. 2024
- Tianjin University- JAIST Collaborative Educational Program Scholarship, awarded by JAIST.             Apr. 2020–Mar. 2021

## Skills

- **Language:** Chinese (native); English (fluent); Japanese (JLPT N2)
- **Programming:** Python, Matlab, C, LaTeX

## Community Services

- **Committee Member, YRRSDS 2024:** Contributed to the organization of the Young Researchers' Roundtable on Spoken Dialogue Systems (YRRSDS) 2024, facilitating engaging discussions at Roundtable sessions.
- **Reviewer:** Information processing and management, SIGDIAL

## Publications

### JOURNAL ARTICLES

[1] **Yahui Fu**, Koji Inoue, Divesh Lala, Kenta Yamamoto, Chenhui Chu, and Tatsuya Kawahara, "Dual variational generative model and auxiliary retrieval for empathetic response generation by conversational robot", *Advanced Robotics*, pp. 1–13, 2023.

[2] **Yahui Fu**, Shogo Okada, Longbiao Wang, Lili Guo, Yaodong Song, Jiaxing Liu, and Jianwu Dang, "Context-and knowledge-aware graph convolutional network for multimodal emotion recognition", *IEEE MultiMedia*, vol. 29, no. 3, pp. 91–100, 2022.

[3] Lili Guo, Longbiao Wang, Jianwu Dang, **Yahui Fu**, Jiaxing Liu, and Shifei Ding, "Emotion recognition with multimodal transformer fusion framework based on acoustic and lexical information", *IEEE MultiMedia*, vol. 29, no. 2, pp. 94–103, 2022.

### CONFERENCE PROCEEDINGS

[1] Zi Haur Pang, **Yahui Fu**, Divesh Lala, Mikey Elmers, Koji Inoue, and Tatsuya Kawahara, "Does the appearance of autonomous conversational robots affect user spoken behaviors in real-world conference interactions?", in *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems, Late Breaking Work (accepted)*.

[2] Zi Haur Pang, **Yahui Fu**, Divesh Lala, Mikey Elmers, Koji Inoue, and Tatsuya Kawahara, "Human-like embodied ai interviewer: Employing android erica in real international conference", in *Proceedings of the 31st International Conference on Computational Linguistics (COLING): System Demonstrations*, 2025, pp. 136–150.

[3] **Yahui Fu**, Chenhui Chu, and Tatsuya Kawahara, "Styemp: Stylizing empathetic response generation via multi-grained prefix encoder and personality reinforcement", in *Proceedings of the 25th Annual Meeting of the Special Interest Group on Discourse and Dialogue (SIGDIAL)*, 2024, pp. 172–185.

[4] **Yahui Fu**, Haiyue Song, Tianyu Zhao, and Tatsuya Kawahara, "Enhancing personality recognition in dialogue by data augmentation and heterogeneous conversational graph networks", in *Proc. Int'l Workshop Spoken Dialogue Systems (IWSDS)*, Sapporo, Japan, 2024.

[5] Zi Haur Pang, **Yahui Fu**, Divesh Lala, Keiko Ochi, Koji Inoue, and Tatsuya Kawahara, "Acknowledgment of emotional states: Generating validating responses for empathetic dialogue.", in *Proc. Int'l Workshop Spoken Dialogue Systems (IWSDS)*, Sapporo, Japan, 2024.

[6] **Yahui Fu**, Koji Inoue, Chenhui Chu, and Tatsuya Kawahara, "Reasoning before responding: Integrating commonsense-based causality explanation for empathetic response generation", in *Proceedings of the 24th Meeting of the Special Interest Group on Discourse and Dialogue (SIGDIAL)*, 2023, pp. 645–656.

[7] **Yahui Fu**, Koji Inoue, Divesh Lala, Kenta Yamamoto, Chenhui Chu, and Tatsuya Kawahara, "Improving empathetic response generation with retrieval based on emotion recognition", in *Proc. Int'l Workshop Spoken Dialogue Systems (IWSDS)*, Los Angeles, USA, 2023.

[8]   **<u>Yahui Fu</u>**, "Causality reasoning for empathy-enriched and personality-conditioned spoken dialogue system", in *Proceedings of the 19th Annual Meeting of the Young Reseachers' Roundtable on Spoken Dialogue Systems (YRRSDS)*, Prague, Czechia: Association for Computational Linguistics, Sep. 2023, pp. 62–63.

[9]   **<u>Yahui Fu</u>**, Shogo Okada, Longbiao Wang, Lili Guo, Yaodong Song, Jiaxing Liu, and Jianwu Dang, "Consk-gcn: Conversational semantic-and knowledge-oriented graph convolutional network for multimodal emotion recognition", in *IEEE International Conference on Multimedia and Expo (ICME)*, 2021, pp. 1–6.

[10]  **<u>Yahui Fu</u>**, Lili Guo, Longbiao Wang, Zhilei Liu, Jiaxing Liu, and Jianwu Dang, "A sentiment similarity-oriented attention model with multi-task learning for text-based emotion recognition", in *MultiMedia Modeling (MMM): 27th International Conference, Prague, Czech Republic, June 22–24, Proceedings, Part I 27*, 2021, pp. 278–289.

[11]  Jiaxing Liu, Sen Chen, Longbiao Wang, Zhilei Liu, **<u>Yahui Fu</u>**, Lili Guo, and Jianwu Dang, "Multimodal emotion recognition with capsule graph convolutional based representation fusion", in *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2021, pp. 6339–6343.

## PATENTS

- A Method for Textual Emotion Recognition based on Sentiment Similarity-oriented Attention. Chinese patent: CN111966824A, November 20, 2020.