# RESUME

## Basic Information


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|---|---|
| Name: | Liyun Zhang |
| Nationality: | China-Xi'an |
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| | https://www.is.ids.osaka-u.ac.jp/ja/ |
| Status: | 3rd year PhD student |
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## Homepage:

https://zhangliyun9120.github.io/

## Research Interests

Multimodal Large Language Model, Embodied AI, Cognitive Interaction, Robot Learning, Affective Computing, and Multi-Annotator Learning.

## Education

- **Osaka University** 2020.10 - 2024.3
  PhD Candidate, Information Systems Engineering
  Research focus: Computer vision for image translation / generation / recognition; Robotic perception, SLAM; Multimodal Large Language Model; Embodied AI.
- **Xi'an University of Science and Technology** 2012.9 - 2015.7
  Master of Science, Computer Technology Engineering
  Research focus: Uneven illumination image segmentation and object recognition, Linux-based embedded automation robotic system

## Employment

- **Specially-Appointed Researcher/Fellow** 2024.4 – Current
  Intelligence and Sensing Lab (ISLab) https://www.is.ids.osaka-u.ac.jp/en/
  Osaka University
  Description: Affective computing, Multi-annotator learning, Multimodal Large Language Model, Emotion recognition
- **Visiting Researcher** 2023.2 - 2024.3
  College of Computing https://animesh.garg.tech/
  Georgia Institute of Technology
  Description: Multi-modal reasoning and LLMs-based embodied AI
- **Research Assistant** 2023.7 - 2024.3
  Graduate School of IST https://www.ist.osaka-u.ac.jp/english/
  Osaka University

Description: Embodied AI and Multi-modal Reasoning

- **Specially Appointed Researcher** 2022.5 - 2023.3
  System Technologies Laboratory
  Sysmex Corporation https://www.sysmex.co.jp/en/index.html
  Description: Identify the area with ointment applied on the forearm (3D partial human body mesh and pose estimation from monocular image)
- **Specially Appointed Researcher** 2021.5 - 2022.3
  Data Science Research Group, CRL
  Sysmex Corporation https://www.sysmex.co.jp/en/index.html
  Description: Time series missing values imputation using GANs-based bidirectional recurrent model on ICU MIMIC-III datasets
- **Research Assistant & Teaching Assistant** 2020.10 - 2021.4
  Cybermedia Center & Graduate School of ES
  Osaka University https://www.cmc.osaka-u.ac.jp/?lang=en
  Description: Mainly worked on Image translation / generation, SLAM and intelligent robot research & assisting graduate students in experiments.
- **Embedded Software Engineer** 2017.12 - 2018.10
  Intelligent Terminal Software Group, Xi'an Research Institute
  ZTE Corporation https://www.zte.com.cn/global/index.html
  Description: Research and development of vehicle audio and power software
- **Software R&D Engineer** 2016.11 - 2017.3
  Software R&D Group, Wuhan Research Institute
  Huawei https://www.huawei.com/us/
  Description: Power management development of smartphone on MTK platform
- **Embedded Software Engineer** 2015.7 - 2017.12
  Software R&D Group, Xi'an Research Institute
  Huaqin Technology https://en.huaqin.com/
  Description: Smartphone software development, image recognition and robot vision algorithm development

# Publications

## (*) Peer-reviewed journal articles:

- **Liyun Zhang**, Photchara Ratsamee, Zhaojie Luo, Yuki Uranishi, Manabu Higashida, Haruo Takemura. Panoptic-Level Image-to-Image Translation for Object Recognition and Visual Odometry Enhancement. 2023 IEEE Transactions on Circuits and Systems for Video Technology (TCSVT).
- **Liyun Zhang**, Nanyan Liu, Yuanbin Hou, Xiaojian Liu. Uneven Illumination Image Segmentation Based on Multi-threshold S-F [J]. Opto-Electronic Engineering, 2014, 41(7): 81-87 (OEE).

## (*) Peer-reviewed international conference papers:

- **Liyun Zhang**, Zhaojie Luo, Shuqiong Wu, Yuta Nakashima. MicroEmo: Time-Sensitive Multimodal Emotion Recognition with Subtle Clue Dynamics in Video Dialogues. 2024 In Proceedings of the 2nd International Workshop on Multimodal and Responsible Affective Computing (MRAC'24 @ ACMMM).

- **Liyun Zhang**, Photchara Ratsamee, Bowen Wang, Zhaojie Luo, Yuki Uranishi, Manabu Higashida, Haruo Takemura. Panoptic-aware Image-to-Image Translation. 2023 IEEE/CVF Winter Conference on Applications of Computer Vision (WACV).
- **Liyun Zhang**, Photchara Ratsamee, Yuki Uranishi, Manabu Higashida, Haruo Takemura. Thermal-to-Color Image Translation for Enhancing Visual Odometry of Thermal Vision. 2022 IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR).

## Awards

- **Special Contribution Award** 2017.3
  Solved the problem of smartphone battery level jump in Huawei
- **Star Staff Award** 2016.10
  Acquired "Star Staff" in Huaqin Telecom Technology
- **Technology Innovation Award** 2016.3 & 2015.11
  Huaqin Group Software Department Technology Innovation Second Award 2 times
- **Software copyright** 2015.4
  Steel pipe identification and counting software system
- **Electronic Design Competition Award** 2014.6
  'Automatic orifice positioning system based on embedded Linux' Electronic design competition Third Award
- **Software copyright** 2013.11
  Mine blast hole automatic positioning software system
- **RoboCup Award** 2012.11
  RoboCup China 2012 Middle Size Robot League First Award
- **Excellent Graduation Project (Thesis)** 2012.7
  "Design of Intelligent Bus Stop Announcement System Based on GPS" won the Excellence Award in the Automation Excellent Graduation Project Competition

## External funding results

- 2023 Research Abroad Grant (Osaka University Future Fund Globalization Promotion)
- 2023 Osaka University Graduate School of Information Science Search Assistant
- 2022 Sysmex Student Researcher Program Specially Appointed Researcher S
- 2021 Sysmex Student Researcher Program Specially Appointed Researcher S
- 2020 Osaka University Graduate School of Information Science Search Assistant
- 2020 KAKEN — Aerial-Terrestrial-Aquatic Robots for Search and Rescue in an ATA Extreme Environment (Number: 20KK0086)

## Skills:

- **Models**
  LLMs, Multimodal model, Reinforcement learning, GANs, Transformer, Diffusion model.
- **Programming**
  Pytorch, Python, ROS, C/C++, Java, Android, QT, Halcon.

## Languages:

English: TOEIC, CET-6; Japanese: N2