RESUME

Basic Information

Name: Liyun Zhang
Nationality: China-Xi'an
Institution: Aonishi Lab, The University of Tokyo
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Status: Specially Appointed Assistant Professor
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Researchmap:

https://researchmap.jp/zhangliyun

Research Interests

Multimodal Large Language Models (MLLMs), Embodied AI, Robotic Learning, Affective Computing, Explainable AI.

Education

- **The University of Osaka** 2020.10 - 2024.3
  Ph.D., 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 Assistant Professor** 2025.10 – Current
  Aonishi Lab https://aonishilab.jp/
  The University of Tokyo
  Description: Multimodal Large Language Model, Explainable AI.
- **Specially-Appointed Researcher/Fellow** 2024.4 – 2025.9
  Intelligence and Sensing Lab (ISLab) https://www.is.ids.osaka-u.ac.jp/en/
  The University of Osaka
  Description: Multimodal Large Language Model (MLLMs), Robotic Learning, Multi-annotator learning, Emotion Recognition.
- **Visiting Scholar** 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/
  The University of Osaka
  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
The University of Osaka 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 († Corresponding author; * Equal contribution)

(A) Journal Articles (Peer-reviewed)

- **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, 34 (2), 938-954. (**TCSVT**).
- **Zhang Liyun**, Liu Nanyan, Hou Yuanbin, Liu Xiaojian. Uneven Illumination Image Segmentation Based on Multi-threshold S-F [J]. 2014 Opto-Electronic Engineering, 41 (7), 81-87. (**OEE**).

(B) Conference Papers (Peer-reviewed)

- **Liyun Zhang**, Zheng Lian, Hong Liu, Takanori Takebe, Yuta Nakashima. SimLabel: Similarity-Weighted Semi-supervision for Multi-annotator Learning with Missing Labels. 2026 The 40th Annual AAAI Conference on Artificial Intelligence (**AAAI**).
- **Liyun Zhang**, Zheng Lian, Hong Liu, Takanori Takebe, Yuta Nakashima. QuMAB: Query-based Multi-annotator Behavior Pattern Learning. 2026 The 40th Annual AAAI Conference on Artificial Intelligence (**AAAI**), (**Oral**).
- Xuanmeng Sha, **Liyun Zhang**†, Tomohiro Mashita, Naoya Chiba, Yuki Uranishi. Robotics-inspired Control for Audio-driven 3D Facial Motion Synthesis. 2025 In the 28th Meeting on Image Recognition and Understanding (**MIRU**).
- **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**).

(C) Conference Papers (In-review)

- **Liyun Zhang**, Jingcheng Ke, Shenli Fan, Xuanmeng Sha, Zheng Lian. A Unified Evaluation Framework for Individual Tendency Learning in Multi-Annotator Scenarios. arXiv preprint (in review **IJCAI** 2026).
- Xuanmeng Sha, **Liyun Zhang**†, Tomohiro Mashita, Yuki Uranishi. 3DFacePolicy: Speech-Driven 3D Facial Animation with Diffusion Policy. arXiv preprint (in review **ICRA** 2026).

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 Technology

- **Technology Innovation Award** 2016.3 & 2015.11
  Innovation Second Award 2 times in Huaqin Technology
- **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

Scholarships & External Fundings

- 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

Grants & Research Projects

- 2025-2026, Research on Continuous Emotion Recognition Using Multimodal Large Language Models, Grant-in-Aid for Research Activity Start-up, Budget Amount (¥2,965,000). **--- Organizer (in review)**
- 2025-2026, "Legal–Technology–Market" Collaborative Governance Model for Caring for Disabled Elderly, Zhejiang Provincial Civil Affairs Policy and Theory Research Project. **--- Participant**
- 2025-2026, Study on Institutional Innovation and Legal Safeguards for Grid-Based Smart Elderly Care in Zhejiang Province, Zhejiang Provincial Soft Science Research Program (General Project), Budget Amount (¥1,008,465). **--- Participant**
- 2023-2028, Bias Mitigation for Deep Neural Networks by Concept-based Image Descriptors, JSPS (The Japan Society for the Promotion of Science), Grant-in-Aid for Scientific Research (A), Budget Amount (¥46,800,000). **--- Participant**
- 2020-2025, Aerial-Terrestrial-Aquatic Robots for Search and Rescue in an ATA Extreme Environment, JSPS (The Japan Society for the Promotion of Science), Fund for the Promotion of Joint International Research (Fostering Joint International Research (B)), Budget Amount (¥18,720,000). **--- Participant**

Research Activities:

- **Reviewer Service:**
  IJCAI, CVPR, PR, TCSVT, ACMMM, WACV, ECCV, ICCV, AAAI

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.