

# Jiaze Li

<https://jiazeli0329.github.io>

Email : [jiaze.li@ucdconnect.ie](mailto:jiaze.li@ucdconnect.ie)

Mobile : +86-188-3366-1166

## EDUCATION

---

**University College Dublin**, Dublin, Ireland

Sept. 2022 – Present

B.E. in Electronic Information Engineering; Present Cumulative GPA: 3.37/4.2

**Beijing University of Technology**, Beijing, China

Sept. 2022 – Present

B.E. in Electronic Information Engineering; Present Cumulative GPA: 3.33/4.2

**Selected High-Scoring Coursework:** Maths (A+); Data Structures and Algorithms (A); Signals and Systems (A).

## WORK EXPERIENCE

---

**Research Assistant**

Oct. 2024 – Present

**College of Computer Science, Beijing University of Technology**, Beijing, China

Supervisor: Assoc. Prof. Yongjian Deng

Participated in a project aimed at addressing complex inter-frame motion in video frame interpolation (VFI) through event-guided approaches.

- Proposed a novel framework combining event data and Stable Diffusion, with an event-aware denoising strategy and a customized perceptual loss to improve temporal consistency and reconstruction quality under complex motion.

**Research Assistant**

Oct. 2023 – Present

**Department of Building Environment and Energy Engineering, The Hong Kong Polytechnic University**, Hong Kong

Supervisor: Asst. Prof. Zhiling Guo

Participated in a project conducting research in computer vision and generative AI for energy engineering applications.

- Leveraged diffusion models and multimodal data to super-resolve meteorological inputs for more accurate photovoltaic (PV) potential estimation.
- Utilized generative models to synthesize remote sensing data and PV masks for training PV panel detection networks, reducing annotation cost.
- Improved SAM (Segment Anything Model) for enhanced segmentation accuracy of PV panels in aerial imagery.

**Research Assistant**

Sept. 2023 – Jun. 2024

**School of Information Science and Technology, Beijing University of Technology**, Beijing, China

Supervisor: Prof. Liguang Zhang

Participated in a project developing intelligent visual systems for enhanced transportation safety and human sensing contexts.

- Developed a generative data augmentation pipeline based on Stable Diffusion to synthesize rare small-scale intrusions, enabling enhanced training of an improved YOLO-based detection model for foreign object recognition.
- Built a real-time 3D human pose reconstruction system by integrating YOLOv8 with depth camera inputs.

## PUBLICATION

---

**Enhancing Multimodal Meteorological Data Resolution via Diffusion Model for Accurate PV Potential Estimation.**

Jiaze Li, Zhiling Guo\*, Huan Zhao, Hongjun Tan, Qing Yu, Rui Zhang, Jian Xu, Jinyue Yan  
*International Conference on Applied Energy* (Oral), 2024 [Paper]

**Generative Approach for Detecting Small Intrusive Foreign Objects in High-Speed Railway Scenario.**

Quan Hao, Rui Shi, Jiaze Li, Liguozhang\*  
*IEEE Transactions on Intelligent Transportation Systems* (Q1, IF: 8.4), Revision Under Review

**Synthesizing Images with Aligned Masks Using Text-to-Image Based Generative AI for Robust PV Segmentation.**

Hongjun Tan, Zhiling Guo\*, Jiaze Li, Yuntian Chen, Qi Chen, Haoran Zhang, Jinyue Yan\*  
*Renewable Energy* (Q1, IF: 9.1), Revision Under Review [Preprint]

**Real-Time 3D Human Pose Reconstruction Based on Depth Camera and YOLOv8 Model.**

Heng Deng, Jiaze Li, Quan Hao, Zhaoyang Cheng, Rui Shi, Liguozhang  
*CN Patent*

**A High-Precision Method for Photovoltaic Panel Segmentation Combining Large-Scale Model Prior Knowledge and Multimodal Information.**

Lingchengjia Zhou, Kechuan Dong, Hongjun Tan, Jiaze Li, Qing Yu, Zhiling Guo\*, Jinyue Yan  
*Applied Energy Symposium and Forum: Low-Carbon Cities and Urban Energy Systems* (Oral), 2024 [Paper]

\* Corresponding author

## ACADEMIC SERVICE

---

• Reviewer for *IEEE Transactions on Intelligent Transportation Systems* 2025

## SELECTED AWARDS

---

- **Outstanding Student Program**, Beijing University of Technology, 2025
- **Innovation and Entrepreneurship Award**, Beijing University of Technology, 2024
- **Second Prize**, China College Students' "Internet+" Innovation and Entrepreneurship Competition, 2024
- **Academic Excellence Award**, Beijing-Dublin International College, 2022, 2023

## TECHNICAL SKILLS

---

- **Languages:** Chinese (native), English (TOEFL 85/120), Japanese (JLPT N2)
- **Programming:** Python, C, Java
- **Tools and Platforms:** Git, Linux
- **Deep Learning Frameworks:** PyTorch
- **Document Preparation:** L<sup>A</sup>T<sub>E</sub>X

## REFERENCE

---

- **Prof. Liguozhang**  
Professor, School of Information Science and Technology, Beijing University of Technology (BJUT)  
Relationship: Supervisor at BJUT  
Email: zhangliguo@bjut.edu.cn