ZHIYUAN YOU

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Education

- **Ph.D. in Information Eng., The Chinese University of Hong Kong** Aug. 2023 -
  - Supervisor: Professor Chao Dong & Professor Tianfan Xue
- **M.Eng. (Honor) in Mechanical Eng., Shanghai Jiao Tong University** Sept. 2020 - Mar. 2023
  - GPA: 3.76/4.0
  - Supervisor: Professor Xinyi Le & Professor Yu Zheng
- **B.Eng. (Honor) in Mechanical Eng., Shanghai Jiao Tong University** Sept. 2016 - Jun. 2020
  - GPA: 89.36/100, Ranking: 5/148
  - Supervisor: Professor Xinyi Le
  - Summer Exchange to *Columbia University* in 2018

Working Experience

- **Research Intern, Horizon Robotics** Dec. 2022 - Mar. 2023
  - Direction: Perception Algorithm in Automatic Driving
  - Leader: Marvin Yu, Director of the Perception Group
  - Achievements:
    - ◇ Improved the FCOS-based detection baseline to detect objects including cars, car rears, pedestrians, and cyclists, increased by ~20% in driving scenarios, replaced existing mono products.
- **Research Intern, SenseTime** Dec. 2020 - Nov. 2022
  - Direction: Anomaly Detection, Few-Shot Learning
  - Leader: Kai Yang, Senior AI Engineer
  - Achievements:
    - ◇ Designed an anomaly detection algorithm, published in NeurIPS 2022 and ICONIP 2022, deployed in two projects (high-speed rail quality inspection, auto parts quality inspection), became the key algorithm of *Shenquan Industrial Training and Inferring Platform*.
    - ◇ Designed a few-shot object counting algorithm, published in WACV 2023.

Publications

- **Z. You**, X. Cai, J. Gu, T. Xue, C. Dong, "Teaching Large Language Models to Regress Accurate Image Quality Scores using Score Distribution," arXiv preprint arXiv:2501.11561, 2025.
- Z. Chen, Y. Wang, X. Cai, **Z. You**, Z. Lu, F. Zhang, S. Guo, T. Xue, "UltraFusion: Ultra High Dynamic Imaging using Exposure Fusion," arXiv preprint arXiv:2501.11515, 2025.
- K. Zhu, J. Gu, **Z. You**, Y. Qiao, C. Dong, "An Intelligent Agentic System for Complex Image Restoration Problems," in Proc. of International Conference on Learning Representations (**ICLR**), 2025.
- J. Zhang*, **Z. You***, J. Wang, X. Le, "SAIL: Sample-Centric In-Context Learning for Document Information Extraction," in Proc. of Association for the Advancement of Artificial Intelligence (**AAAI**), 2025.

- **Z. You**, J. Gu, Z. Li, X. Cai, K. Zhu, C. Dong, T. Xue, "Descriptive Image Quality Assessment in the Wild," arXiv preprint arXiv:2405.18842, 2024.
- X. Cai, **Z. You**, H. Zhang, W. Liu, J. Gu, T. Xue, "PhoCoLens: Photorealistic and Consistent Reconstruction in Lensless Imaging," in Proc. of Annual Conference on Neural Information Processing Systems (**NeurIPS, Spotlight**), 2024.
- **Z. You**, Z. Li, J. Gu, Z. Yin, T. Xue, C. Dong, "Depicting Beyond Scores: Advancing Image Quality Assessment through Multi-modal Language Models," in Proc. of European Conference on Computer Vision (**ECCV**), 2024.
- J. Liu, Y. Zhang, C. Li, **Z. You**, Z. Zhou, C. Yang, Y. Yang, Y. Liu, W. Ouyang, "MaskMA: Towards Zero-Shot Multi-Agent Decision Making with Mask-Based Collaborative Learning," Transactions on Machine Learning Research (**TMLR**), 2024.
- **Z. You**, K. Yang, W. Luo, X. Lu, L. Cui, X. Le, "Few-Shot Object Counting with Similarity-Aware Feature Enhancement," in Proc. of IEEE Winter Conference on Applications of Computer Vision (**WACV, Early Accept**), 2023.
- **Z. You**, L. Cui, Y. Shen, K. Yang, X. Lu, Y. Zheng, X. Le, "A Unified Model for Multi-class Anomaly Detection," in Proc. of Annual Conference on Neural Information Processing Systems (**NeurIPS, Spotlight**), 2022.
- **Z. You**, K. Yang, W. Luo, L. Cui, Y. Zheng, X. Le, "ADTR: Anomaly Detection Transformer with Feature Reconstruction," in Proc. of International Conference on Neural Information Processing (**ICONIP, Oral**), 2022.
- **Z. You**, J. Li, H. Zhang, B. Yang, X. Le, "An Accurate Star Identification Approach Based on Spectral Graph Matching for Attitude Measurement of Spacecraft," Complex & Intelligent Systems, 8(2), pp.1639-1652, 2022.
- L. Chen, **Z. You**, N. Zhang, J. Xi, X. Le, "UTRAD: Anomaly Detection and Localization with U-Transformer," Neural Networks, 147, pp.53-62, 2022.

Services

- **Journal Reviewer**
  - International Journal of Computer Vision (IJCV)
  - IEEE Transactions on Neural Networks and Learning Systems (T-NNLS)
  - IEEE Transactions on Systems, Man and Cybernetics: Systems (T-SMCS)
  - IEEE Transactions on Multimedia (T-MM)
  - IEEE Transactions on Circuits and Systems for Video Technology (T-CSVT)
  - Pattern Recognition (PR)
  - Knowledge Based Systems (KBS)
  - Journal of Intelligent Manufacturing
  - Neurocomputing
- **Conference Reviewer**
  - IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2024, 2025
  - Annual Conference on Neural Information Processing Systems (NeurIPS), 2024
  - International Conference on Learning Representations (ICLR), 2025
  - International Conference on Machine Learning (ICML), 2025
  - International Conference on Artificial Intelligence and Statistics (AISTATS), 2025

Honors and Awards

- Excellent Master Dissertation   2023
- Outstanding Graduate (Postgraduate)   2023
- National Scholarship   2022
- Outstanding Graduate (Undergraduate)   2020
- ABB Scholarship   2017, 2018, 2019
- Tingya Scholarship   2019

Teaching

- **Teaching Assistant, The Chinese University of Hong Kong**   Sept. 2024 - Dec. 2024
  - Course: IERG4230, Introduction to Internet of Things.
- **Teaching Assistant, The Chinese University of Hong Kong**   Sept. 2024 - Dec. 2024
  - Course: IERG2051, Signals and Systems.
- **Teaching Assistant, The Chinese University of Hong Kong**   Jan. 2024 - May. 2024
  - Course: IERG4160, Image and Video Processing.
- **Teaching Assistant, The Chinese University of Hong Kong**   Sept. 2023 - Dec. 2023
  - Course: ENGG2720, Complex Variables for Engineers.
- **Teaching Assistant, Shanghai Jiao Tong University**   Sept. 2020 - Jan. 2021
  - Course: ME28009, Dynamic Programming and Optimal Control.

Miscellaneous

- Languages   Mandarin (First Language), English (TOEFL 101)
- Hobbies   Technical Writing, Reading, Geography, Running, Table Tennis
- Activities   Founder & President of *SJTU Lingduzhe Association*

Leader of Media Team in *SJTU International Office* and *SJTU Youth League Committee*

Monitor of Postgraduate Class