

Ziqiang Zheng

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EDUCATION

- Ph.D. candidate in **Computer Science and Engineering** Hong Kong, China
Hong Kong University of Science and Technology (HKUST). 2021.08–present
- Bachelor degree in **Electronic Engineering** Qingdao, Shandong
College of Information Science and Engineering, Ocean University of China (**985/211**). 2015.09–2019.06
- GPA: 3.21/4.0; Rank: 10/57.
 - Final year research thesis project: One-shot image-to-image translation (supervised by **Prof. Haiyong Zheng** and **Prof. Zhibin Yu**), final rank: **A**.
 - Research interest: computer vision, machine learning, biomedical image analysis.

RESEARCH EXPERIENCE

- Ph.D. candidate** Hong Kong, China
supervised by **Prof. Sai-Kit Yeung** of Hong Kong University of Science and Technology (HKUST). 2021.08–present
- Foundation Models: LLM and MLLM
 - Semantic SLAM and 3D Reconstruction
 - Controllable Image Synthesis and Domain Adaptation
 - Self-supervised Learning
- Research Assistant** Chengdu, Sichuan
Research assistant supervised by **Prof. Yang Yang** of Center for Future Media of UESTC. 2020.10–2021.09
- Deepfake generation and detection.
 - Image steganography
- UISEE Research Engineer** Shanghai
Research engineer supervised by **Prof. Jianbo Shi** of Upenn. 2019.09–2020.10
- Autonomous driving at adverse conditions: promote the performance of **Localization**, **Semantic segmentation** and **Object detection**. [Presentation](#).
 - **VSLAM** and **3D reconstruction**: 10% improvement of localization precision on ORB-SLAM2. 3D point cloud reconstruction based on **Colmap** and **pseudo-lidar** generation.
 - **Unsupervised image retrieval**: adopt contrastive learning to extract domain-agnostic representations.
- UISEE Internship** Nanjing, Jiangsu
Research internship supervised by **Prof. Jianbo Shi** of Upenn. 2019.05–2019.08
- Property Tunable Image Manipulation with Self-Generated Supervision.
- NAIST Internship** (NARA Institute of Science and Technology) Nara, Japan
Visiting student supervised by **Dr. Yang Wu** of **Robotics Vision International Lab**. 2018.09–2018.11
- Asymmetric image encryption and object reshaping.

PUBLICATIONS

- **Z. Zheng**, Y. Chen, H. Zeng, T. Vu, B. Son, S. Yeung. MarineInst: A Foundation Model for Marine Image Analysis with Instance Visual Description. European Conference on Computer Vision (ECCV), 2024.
- **Z. Zheng**, H. Liang, B. Son, Y. Wong, P. Jr, A. Chui, S. Yeung. CoralSCOP: Segment any COral Image on this Planet. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2024. (**Highlight Paper: 324/11532**) [Website](#).
- Y. Xie, L. Kong, K. Chen, **Z. Zheng**, X. Yu, Z. Yu, B. Zheng. UVEB: A Large-scale Benchmark and Baseline Towards Real-World Underwater Video Enhancement. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2024. [Code](#).
- **Z. Zheng**, Y. Chen, B. Son, Y. Wu, S. Yeung. Cross-Domain Autonomous Driving Perception using Contrastive Appearance Adaptation. IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2023.
- **Z. Zheng**, Y. Chen, B. Son, S. Yeung. CompUDA: Compositional Unsupervised Domain Adaptation for Semantic Segmentation under Adverse Conditions. IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2023.
- C. Li*, **Z. Zheng***, Y. Bin, G. Wang, Y. Yang, X. Li, H. Shen. Pixel Bleach Network for Detecting Face Forgery under Compression. IEEE Transaction on Multimedia (TMM), 2023.
- **Z. Zheng**, Y. Cheng, Z. Xin, Z. Yu, B. Zheng. Robust Perception under Adverse Conditions for Autonomous Driving based on Data Augmentation. IEEE Transactions on Intelligent Transportation Systems (TITS), 2023.
- Z. Ma, **Z. Zheng**, J. Wei, X. Wei, Y. Yang, H. Shen. Open-Scenario Domain Adaptive Object Detection in Autonomous Driving. ACM Multimedia (ACM MM), 2023.
- H. Ren*, **Z. Zheng***, Y. Wu, H. Lu, Y. Yang, S. Yeung. ACNet: Approaching-and-Centralizing Network for Zero-Shot Sketch-Based Image Retrieval. IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2023. [Code](#).
- **Z. Zheng**, Y. Hu, Y. Bin, X. Xu, Y. Yang, H. Shen. Component Aware Image Steganography via Adversarial Global-and-Part Checking. IEEE Transactions on Neural Networks and Learning Systems (TNNLS), 2022. [Code](#).
- **Z. Zheng***, Y. Bin*, X. Lv, Y. Wu, Y. Yang, H. Shen. Asynchronous generative adversarial network for asymmetric unpaired image-to-image translation. IEEE Transaction on Multimedia (TMM), 2022.
- **Z. Zheng**, Z. Yu, H. Zheng, Y. Yang, H. Shen. One-Shot Image-to-Image Translation via Part-Global Learning with a Multi-adversarial Framework. IEEE Transaction on Multimedia (TMM), DOI: 10.1109/TMM.2021.3053775, 2021.
- **Z. Zheng**, Y. Wu, X. Han, J. Shi. ForkGAN: Seeing into rainy night. European Conference on Computer Vision (ECCV), 2020. (**Oral Paper: 102/5150**) [Code](#).
- **Z. Zheng**, H. Zheng, Z. Yu, Z. Gu, B. Zheng. Unpaired Photo-to-Caricature Translation on Faces in the Wild. Neurocomputing, Vol.355, pp71-81, 2019. [Code](#).
- C. Wang, H. Zheng, Z. Yu, **Z. Zheng**, B. Zheng, N. Wang. Discriminative Region Proposal Adversarial Networks for High-Quality Image-to-Image Translation. European Conference on Computer Vision (ECCV), pp770-785, 2018. [Code](#).

MANUSCRIPTS

- **Z. Zheng**, J. Zhang, T. Vu, S. Diao, Y. Wong, S. Yeung. MarineGPT: Unlocking Secrets of Ocean to the Public. [Arxiv](#). [Code](#).
- **Z. Zheng**, Y. Xie, H. Liang, Z. Yu, S. Yeung. CoralVOS: Dataset and Benchmark for Coral Video Segmentation. [Website](#). [Code](#).
- H. Liang*, **Z. Zheng***, Z. Ma, S. Yeung. MarineDet: Towards Open-Marine Object Detection. [Arxiv](#). [Website](#).

* denotes **equal contribution**.

SCHOLARSHIPS AND PRIZES

- AEON Scholarship Award 2018
- JASSO internship scholarship 2018
- Future Cup College AI challenge image algorithm group (9th of 273) 2018
- Silver medal of Kaggle competition (91/2293, 3.97%), [Website](#) 2017
- Qingdao hacker marathon, Best Newcomer Award (1/150) 2017
- Tiantai Scholarship Award 2016

SKILLS

- **Programming:** Python, C/C++, JAVA, MATLAB, LaTeX, Bash, Docker and Linux
- **DL framework:** Caffe, TensorFlow, Pytorch and Keras
- **English:** GRE 326+4; TOELF 91

HOBBIES

- **Sports:** Basketball, Swimming and Tennis
- **Cooking**
- **Cycling and Mountain Hiking**