

JIANQI CHEN

Beihang University, Beijing

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RESEARCH INTERESTS

Adversarial Attack and Defense, Text-to-Image Synthesis, Image Recognition, Videos/3D (*Future*)

EDUCATION

Master in Beihang University

Sep 2021 – Present

Pattern Recognition and Intelligent Systems, GPA: 3.86, Ranking: (1/32)

Bachelor in Beihang University

Sep 2017 – Jun 2021

Aircraft Control and Information Engineering, GPA: 3.78, Ranking: (3/83)

PUBLICATIONS (ONLY FIRST AUTHOR SELECTED)

Diffusion Models for Imperceptible and Transferable Adversarial Attack [\[Paper\]](#) [\[Github\]](#)

Arxiv, 2023

Jianqi Chen, Hao Chen, Keyan Chen, Yilan Zhang, Zhengxia Zou, and Zhenwei Shi

Zero-Shot Image Harmonization with Generative Model Prior [\[Paper\]](#) [\[Github\]](#)

Arxiv, 2023

Jianqi Chen, Zhengxia Zou, Yilan Zhang, Keyan Chen, and Zhenwei Shi

Dense Pixel-to-Pixel Harmonization via Continuous Image Representation [\[Paper\]](#) [\[Github\]](#) [\[Demo\]](#)

Arxiv, 2023

Jianqi Chen, Yilan Zhang, Zhengxia Zou, Keyan Chen, and Zhenwei Shi

Contrastive Learning for Fine-grained Ship Classification in Remote Sensing Images [\[Paper\]](#) [\[Github\]](#)

IEEE Transactions on Geoscience and Remote Sensing (TGRS), 2022

Jianqi Chen, Keyan Chen, Hao Chen, Wenyuan Li, Zhengxia Zou, and Zhenwei Shi

A Degraded Reconstruction Enhancement-based Method for Tiny Ship Detection in Remote Sensing Images with A New Large-scale Dataset [\[Paper\]](#) [\[Github\]](#) [\[Dataset\]](#)

IEEE Transactions on Geoscience and Remote Sensing (TGRS), 2022

Jianqi Chen, Keyan Chen, Hao Chen, Zhengxia Zou, and Zhenwei Shi

PROJECTS & RESEARCH

Research on Adversarial Attack and Defense

Mar 2022 – Present

Research – Core Member – Pytorch

- For the attack, explore imperceptible adversarial samples, and black-box transferable adversarial attack. Proposed a strong and powerful imperceptible and transferable attack based on Diffusion Models. [\[Link\]](#)
- For the defense, explore adversarial training and defensive structure design. In CVPR 2022 The Art of Robustness Challenge, won the 5th place in Track I (Classification Task Defense), and the 6th place in Track II (Open Set Defense). [\[Link\]](#)

Research on Clothes Virtual Try-On

May 2023 – Present

Research Intern – Pytorch

(SenseTime Research)

- Work on fashion clothes try-on. Develop robust and high-quality fashion clothes try-on methods, based on the knowledge of technologies like text-to-image synthesis, image inpainting, large vision models, and fine-tuning strategy.

Research on High Resolution Harmonization and Zero-Shot Harmonization

Jun 2022 – May 2023

Personal Research – Pytorch

- Leveraged Implicit Neural Representation to meet the needs of ultra-high resolution image harmonization for real-world scenarios ($\geq 6K$ resolution). [\[Link\]](#)
- Proposed a zero-shot image harmonization algorithm based on Diffusion Models, aiming at the problem that the current methods have a heavy demand for large datasets. [\[Link\]](#)

Gaofen Series Satellite Data Processing Software

Apr 2021 – Present

Project – Core Member – C++ & Linux

- Built a data processing software system with C++ to ensure that the memory usage and data processing speed meet the requirements.
- Participated in the whole process of code construction, system testing, module joint debugging, and logistics support as the core member in charge of an 8-people team.

Remote Sensing Tiny Target Rapid Processing System

Oct 2020 – Nov 2021

Project – Algorithm Design – Pytorch & Docker & TensorRT

- Proposed a degraded reconstruction enhanced network for ship detection in low-resolution wide-range remote sensing images. For objects $\leq 20 \times 20$ pixels, compared with existing methods, the accuracy (AP) is increased by 4.7 while the parameters (Params) and calculation amount (FLOPs) are reduced by 32% and 19% respectively. [\[Link\]](#)
- Proposed an asynchronous contrastive learning algorithm for fine-grained classification of ships. By separating and aggregating features, the classification accuracy reaches SOTA on more than 20 important fine-grained classes. [\[Link\]](#)

SELECTED HONORS

Excellent graduate student of Beihang University	Dec 2022
National Scholarship, Ministry of Education of China	Sep 2022
Graduate Entrance Scholarship of Beihang University	Sep 2021
Outstanding Graduates of Beihang University	Jun 2021
First Prize of “Innovation and Entrepreneurship Scholarship”	Dec 2020
Special Prize of “Outstanding Academic Performance”, Beihang University	Dec 2020
First Prize of “Lee Kum Kee Astronautics Scholarship”, Beihang University	Nov 2020
Second Prize in China College Students’ “Internet+” Innovation and Entrepreneurship Competition	Sep 2020
Second Prize of “AVIC Scholarship”, Beihang University	Dec 2019

SKILLS

Programming Language: Python, C++, Matlab, HTML/CSS, etc

Language: Mandarin (*native*), English (*IELTS 7.5*), German (*beginner*)

EXTRACURRICULAR

Propaganda Department of the Graduate Student Association of the college <i>Member – Committed to the publicity work of big events</i>	Nov 2021 – Jun 2022 <i>Beihang University</i>
Media Design Department of the College News Center <i>Deputy Director – Responsible for the publicity work of the college</i>	Nov 2018 – Jun 2020 <i>Beihang University</i>
Chung Yuan Christian University Summer Camp <i>Visiting Student – Took a Microcomputer Creation Course and learnt local culture</i>	Jul 2019 – Aug 2019 <i>Chung Yuan Christian University</i>
College Student Rural Volunteering Summer Program <i>Volunteer – Held a summer camp for rural children</i>	Jul 2018 <i>Beijing Yiwei Youth Public Welfare Development Center</i>