JIANQI CHEN

Beihang University, Beijing

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RESEARCH INTERESTS

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

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)

Dense Pixel-to-Pixel Harmonization via Continuous Image Representation
Under Review, Arxiv, 2023
Jianqi Chen, Yilan Zhang, Zhengxia Zou, Keyan Chen, and Zhenwei Shi

Contrastive Learning for Fine-grained Ship Classification in Remote Sensing Images
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
IEEE Transactions on Geoscience and Remote Sensing (TGRS), 2022
Jianqi Chen, Keyan Chen, Hao Chen, Zhengxia Zou, and Zhenwei Shi

(Besides, ***one paper*** *related to* ***Image Harmonization*** *is under review but not displayed online, and* ***one paper*** *related to* ***adversarial attack*** *is in preparation for the upcoming NeurIPS.)*

PROJECTS & RESEARCH

Research on Adversarial Attack and Defense **Mar 2022 – Present**
Research – Core Member – Pytorch

- For the attack, explored imperceptible adversarial samples, and black-box transferable adversarial attack.
- For the model robustness, explored adversarial training and defensive structure design.
- In CVPR 2022 The Art of Robustness, won the 5th place in Track I (Classification Task Defense), and the 6th place in Track II (Open Set Defense).

Research on High Resolution Harmonization and Zero-Shot Harmonization **Jun 2022 – Present**
Personal Research – Pytorch

- Leveraged implicit neural representation to meet the needs of ultra-high resolution image harmonization for real-world scenarios ($\geq$6K resolution).
- Proposed a zero-shot image harmonization algorithm based on Stable Diffusion, aiming at the problem that the current methods have a heavy demand for large datasets.

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.
- 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.

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

TECHNICAL SKILLS

Languages: Python, C++, Matlab, HTML/CSS, etc

Packages: Pytorch, OpenCV

EXTRACURRICULAR

Propaganda Department of the Graduate Student Association of the college **Nov 2021 – Jun 2022**

Member *Beihang University*

- Actively participated in the publicity work of major events.
- Committed to the design of videos, newsletters, poster, etc, with AE, PhotoShop, PR and other technologies.

Media Design Department of the College News Center **Nov 2018 – Jun 2020**

Deputy Director *Beihang University*

- Responsible for the publicity work of the college.
- Designed publicity works for important activities such as University Science Camps and China Aerospace Day, leveraging AE, PhotoShop, PR and other technologies.

Chung Yuan Christian University Summer Camp **Jul 2019 – Aug 2019**

Visiting Student *Chung Yuan Christian University*

- Took a Microcomputer Creation Course.
- Visited and learned about local culture.

College Student Rural Volunteering Summer Program **Jul 2018**

Volunteer *Beijing Yiwei Youth Public Welfare Development Center*

- Held a summer camp for rural children.
- Responsible for reading, art and game courses for children in the third and fourth grades of elementary school.