

ZIXUAN XIAO

National University of Defense Technology
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EDUCATION

National University of Defense Technology	<i>September 2018 - December 2020</i>
M.Eng. in Information and Communication Engineering	Overall GPA: 89.24 /100
Thesis: Research on Few-shot Object Detection for Remote Sensing Images	
Beijing Institute of Technology	<i>September 2014 - June 2018</i>
B.S. in Telecommunication Engineering	Overall GPA: 87.86 /100

RESEARCH INTERESTS

My research interests focus on **computer vision, remote sensing, deep learning and machine learning**. I also focused on **few-shot learning** previously.

PAPERS

Zixuan Xiao, Jiahao Qi, Wei Xue, and Ping Zhong. (2021). Few-shot Object Detection with Self-adaptive Attention Network for Remote Sensing Images. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*. [Cite: **15**. Link: <https://doi.org/10.1109/JSTARS.2021.3078177>]

Zixuan Xiao, Ping Zhong, Yuan Quan, Xuping Yin, Wei Xue. (2020). Few-shot Object Detection with Feature Attention Highlight Module in Remote Sensing Images. *2020 International Conference on Image, Video Processing and Artificial Intelligence*. [Best Paper Award. Link: <https://doi.org/10.1117/12.2577473>]

Wei Xue, Jiahao Qi, Guoqing Shao, **Zixuan Xiao**, Yu Zhang, Ping Zhong. (2021). Low-Rank Approximation and Multiple Sparse Constraints Modelling for Infrared Low-Flying Fixed-Wing UAV Detection. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*. [Cite: **13**. Link: <https://doi.org/10.1109/JSTARS.2021.3069032>]

RESEARCH EXPERIENCE

National University of Defense Technology, China *December 2018 - December 2020*
Research Assistant

- I led a team of three and was responsible for algorithm selection, theory and feasibility research, performance analysis and reporting. We focused on object detection tasks on the public UAV image dataset. After extensive research on algorithm selection and theory analysis, we completed the project and our mAP ranked highest among all teams. This was my first time doing research on object detection tasks for UAV images.
- After that, I was focusing on few-shot object detection for remote sensing images, i.e. object detection tasks with only a few training data (1-10 objects per class). Through research and analysis, I acquired a full understanding of this research topic. In the meantime, I came up with several ideas to introduce attention mechanisms and conducted experiments on two public datasets to corroborate my ideas. Finally, I had two papers published in the proceedings of the conference IVP AI 2020 and the journal JSTARS respectively and one won the Best Paper Award. Then I completed my thesis and received my M.Eng. degree from NUDT.

WORK EXPERIENCE

China Guangfa Bank, China
Data Scientist

January 2021 - Present

- I am responsible for projects on big data processing and analysis.
- Currently, I am working on a model using machine learning technology to predict whether clients are willing to buy products. The project is based on the Spark framework and uses Hive to read from databases. Specifically, the project involves data cleaning, feature engineering, model training and optimizing. Additionally, I am going to explore deep learning models.

TRAINING AND SKILLS

Courses	Advanced Engineering Mathematics: <i>A/A</i> Digital Image Analysis: <i>A/A</i> Linear Algebra: <i>100/100</i> Probability Theory and Mathematical Statistics: <i>100/100</i> Machine Learning: <i>B+/A</i> Engineering Mathematics Analysis: <i>91/100</i>
Software & Tools	Python and related data processing, machine learning tools. Pytorch. Matlab. Linux. Java. Hive and MySQL. Spark.
Language	Chinese (native) English (IELTS 7.0) Japanese (primary)

HONORS & AWARDS

IVPAI 2020

Best Paper Award

August 2020

National University of Defense Technology

Individual Scholarship

September 2018

Beijing Institute of Technology

Scholarship for Outstanding Students, 2nd Prize

December 2017

Scholarship for Outstanding Students, 3rd Prize

June 2016

Scholarship for Outstanding Students, 3rd Prize

December 2015

National Encouragement scholarship

December 2015

Scholarship for Outstanding Students, 2nd Prize

June 2015

Outstanding Student, 3rd Prize

April 2015

Scholarship for Outstanding Students, 2nd Prize

December 2014