

Lingyun SHAO
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Research Interest: Image processing; Deep learning; Transfer learning; Machine Learning; Large model lightweight; NLP

EDUCATION

Tianjin University	Tianjin, China	
<i>Master of Electronic and Communication Engineering</i>		2019/08–2022/06
Intelligent Information Processing Laboratory		College of Microelectronics
Advisor: Prof Li Qiang, Prof Guan Xin;		
Tiangong University		Tianjin, China
<i>Bachelor of Electronic Information Engineering</i>	GPA: 2.89/4.0	2015/09–2019/06

PUBLICATION

Lingyun Shao, Qiang Li, Xin Guan, Xuwen Ding. Disease Classification Algorithm of Chest X-Ray Based on Efficient Channel Attention[J]. Laser & Optoelectronics Progress, 2023, 60(12): 1217001(in chinese).

PATENT

Device and Method for Classification of Tomographic Images Based on Channel Attention Mechanism (202210114312X)

RESEARCH EXPERIENCE**Research on Chest Radiograph Diagnose Based on Deep Learning**

- Inspired by the rapid development of attention mechanisms, which can be applied in the field of image processing. Designed an Efficient Channel Attention Network Based on DenseNet(ECA-DenseNet).
- Enhanced the information interaction between channels and improved model performance. Effectively reduced the number of network parameters by using asymmetric convolution method.
- Effectively improved the classification accuracy on the dataset ChestX-Ray14, with the average AUC of 0.8245.
- Verified the effectiveness of each module through ablation experiments, enhanced deep learning interpretability using heatmaps generated by the Grad-CAM algorithm.

Research on Classification Algorithm of COVID-19 X-Ray Images Based on Deep Learning

- Due to the COVID-19 had spread widely around the world. Proposed a classification algorithm for COVID-19 called Deep Connected Attention Network based on ResNet(DCA-ResNet).
- Effectively improved the feature extraction ability by adding the deep connected attention mechanism, and achieved higher classification accuracy, with the accuracy reached 94.73%.

WORK AND INTERSHIP

ByteDance Co., Ltd	2021/06–2021/09
<ul style="list-style-type: none">● Capture packages through Charles and write scripts with python for interface automation testing; Using selenium for automated program testing.	
Qingdao Hisense Hitachi Air Conditioning System Co., Ltd	2022/08–2023/10
<ul style="list-style-type: none">● Responsible for software development of central air conditioning outdoor units based on MCU embedded system. Collaborate with Infineon to import the trained neural network model into MCU to achieve an intelligent air conditioning system based on user usage habits	

SKILLS

Language English(Fluent), CET-6, IELTS(Preparing); Chinese(Mandarin, native speaker)

Programming and Others Python, C, Mysql, Matplotlib, Pytorch, TensorFlow, Keras, Numpy, UART, I2C, SPI