

Zhaoying Pan

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1429 McIntyre, Ann Arbor, MI, 48105

SKILLS

Programming: Python, C, Matlab, Verilog, L^AT_EX, HTML and CSS(familiar), JavaScript(familiar).
Libraries: PyTorch, Numpy, OpenCV, Dlib, TensorFlow(familiar).

EDUCATION

University of Michigan <i>Master of Science in Electrical and Computer Engineering</i> <ul style="list-style-type: none">• Majoring in Computer Vision• GPA: 4.0/4.0• Advisor: <u>Andrew Owens</u>.	Ann Arbor, USA 2021 - 2023(expected)
University of Chinese Academy of Sciences <i>Bachelor of Engineering in Electronic and Information Engineering</i> <ul style="list-style-type: none">• GPA: 3.59/4.0• Bachelor's Thesis: Image Caption Generating of High-Resolution Remote Sensing images.• Advisor: <u>Xian Sun</u>, Kun Fu at Chinese Academy of Sciences.	Beijing, China 2017 - 2021

RESEARCH EXPERIENCE

University of Michigan <i>Research Assistant</i> <ul style="list-style-type: none">• Working on photoshopped images classification.	Jan. 2022 – Present Advisor: Andrew Owens
Aerospace Information Research Institute, Chinese Academy of Sciences <i>Research Assistant</i> <ul style="list-style-type: none">• Adapted CycleGAN to remove fog in images.	Mar. 2021 – Jun. 2021 Advisor: Xian Sun
Aerospace Information Research Institute, Chinese Academy of Sciences <i>Research For Bachelor's Thesis</i> <ul style="list-style-type: none">• Reviewed image captioning algorithms, including <i>Show and Tell</i>, <i>Show, Attend and Tell</i>, Transformer, Attention on Attention (AoA)• Applied the above four algorithms to three remote-sensing image dataset(Sydney-Captions Dataset, UCM-Captions Dataset, RSICD Dataset)• Compared and analysed the results qualitatively and quantitatively.	Nov. 2020 – Apr. 2021 Advisor: Fu Kun and Xian Sun
Institute of Computing Technology, Chinese Academy of Sciences <i>Research Assistant</i> <ul style="list-style-type: none">• Developed the low-latency I2S controller on FPGA.• Investigated video compression algorithms based on JPEG XS.	Jul. 2020 – Oct. 2020 Advisor: Yiqing Zhou
Aerospace Information Research Institute, Chinese Academy of Sciences <i>Summer Research Intern</i> <ul style="list-style-type: none">• Reviewed object detection algorithms, including Faster-RCNN, YOLO v3, and YOLO v4.• Trained YOLO v3 on the DOTA dataset(a remote-sensing dataset) to detect objects in remote sensing images.	Aug. 2020 – Oct. 2020 Advisor: Xian Sun, Kun Fu
Aerospace Information Research Institute, Chinese Academy of Sciences <i>Summer Research Intern</i> <ul style="list-style-type: none">• Adapted simple CNN and LSTM on MNIST dataset with PyTorch, <i>show and tell</i> algorithm on UCM dataset with TensorFlow.	Jul. 2019 – Aug. 2019 Advisor: Xian Sun, Kun Fu

SELECTED PROJECTS

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| Facial Expression Editing | Oct. 2021 – Dec. 2021 |
| <ul style="list-style-type: none">• Adapted the first order motion model to edit facial expressions.• Designed and implemented a weighting mechanism to improve the performance. | |
| DeepFake Images Detection | Oct. 2021 – Dec. 2021 |
| <ul style="list-style-type: none">• Designed and implemented a simple classifier and a Siamese network from scratch to detect DeepFake images.• Reimplemented a EfficientNet-based classifier with Siamese-style training strategy. | |
| Location and segmentation of license plate's characters | Jun. 2020 |
| <ul style="list-style-type: none">• Designed and implemented image processing algorithms to locate the license plates and segment the characters in Matlab. | |

AWARDS AND HONORS

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| Thesis with Distinction , <i>University of Chinese Academy of Sciences</i> | 2021 |
| Academic Excellence Scholarship of Second class , <i>University of Chinese Academy of Sciences</i> | 2019 |
| Merit Student , <i>University of Chinese Academy of Sciences</i> | 2018 – 2019 |
| Gold Medal, Best Open Project , <i>International Genetically Engineered Machine (iGEM) Foundation</i> | 2017 – 2018 |