

JIAHAO NIE

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Nanyang Technological University, 50 Nanyang Avenue, Singapore, 639798

EDUCATION

Northwestern Polytechnical University (NWPU), China

Sep. 2016 - Jun. 2020

B.ENG. in Information Engineering

Outstanding Graduate

GPA: 88/100 Ranking: Top 10%

TOEFL: 104 GRE: 319

Highlighted Courses: Programming (96), Machine Learning (90), Signals & Systems (94), Information Theory & Coding (98), Digital Signal Processing (93), Principles of Automatic Control (92)

Nanyang Technological University (NTU), Singapore

Aug. 2021 - Aug. 2022

M.S. in Signal Processing

GPA: 4.63/5.0

Highlighted Courses: EE7207-Neural & Fuzzy Systems (5.0), EE7403-Image Analysis & Pattern Recognition (5.0), EE6427-Video Signal Processing (5.0), EE6402-Real-Time DSP Design & Applications (5.0), EE6222-Machine Vision (4.5), EE627-Genetic Algorithms & Machine Learning (4.5)

RESEARCH EXPERIENCE

Research Interest

Computer Vision, Artificial Intelligence, Machine Learning

Rapid-Rich Object Search Lab, NTU

M.S. Dissertation Project & Research Associate

Sep. 2021 - Present

- **Supervisors:** [Prof. Tan Yap-Peng](#), [Prof. Alex Kot](#), and [Dr. Shan Lin](#)
- Designed new method for Attire & Modality Insensitive Person Re-Identification, including Visible & Infrared Cross-Modality and Cloth-Changing settings.
- Collected and annotated a new dataset containing hundreds of cameras and tens of environments, which is most close to application scenario
- Proposed new baseline and evaluation protocols for solving existing problems

Center of Intelligent Acoustics and Immersive Communications, NWPU

Research Assistant

Aug. 2020 - Jul. 2021

- **Supervisor:** [Prof. Jie Chen](#)
- Proposed a new method to recognize different actions in Infrared videos, which is published on Proceedings of IEEE ICICSP 2021
- Collected two Visible & Infrared datasets for super-resolution & pedestrian detection tasks

Navigation Technology Engineering Center Laboratory, Tsinghua University

Summer Intern

Jul. 2019 - Aug. 2019

- **Supervisor:** [Prof. Qi Wei](#)
- Researched, summarized and compared design principles, manufacturing methods and indicators
- Proposed personal feelings and opinions on industry development
- Put forward the scheme of improving angle sensor to displacement sensor and points for attention

PUBLICATION

A Novel 3D Convolutional Neural Network for Action Recognition in Infrared Videos

Jiahao Nie, Longbin Yan, Xiuheng Wang, Jie Chen

IEEE International Conference on Information Communication and Signal Processing, **ICICSP 2021**

OTHER PROJECT

ROV I & II, NWPU,

Chinese National College Student Innovative Entrepreneurship Project

Team Leader

May. 2018 - Aug. 2019

- Utilized propeller, steering gear and solenoid valve for a water spraying and vector propulsion method
- Used STM32 SCM and ZigBee to realize wireless control of ROV movement
- Configured camera and multiple sensors for additional functionality

Kinect and Sensor based Smart Home System, NWPU,

Chinese National College Student Innovative Entrepreneurship Project

Team Leader

May. 2018 - Apr. 2019

- Applied Kinect sensor to monitor human movements and conducted different functions
- Used PC as the upper computer and Arduino control board as the lower computer
- Controlled the electrical equipments to automatically adjust environmental parameters

Research and Implementation of Head Pose Estimation in Video, NWPU, Graduation Design

Grade: 92/100

Oct. 2019 - Jul. 2020

- Recognized the direction of human head rotation for the input camera
- Adopted neural network algorithm to further improve the camera recognition accuracy
- Combined with Instance Segmentation and Holographic Projection to improve the display results

ACTIVITY

Vice Chairman of Student Union,

School of Marine Science and Technology, NWPU

2017 - 2019

Several voluntary activities,

including '1V1' Helping and Supporting Rongshui Students, short-term volunteer teaching *2017 - 2019*

Chief Volunteer,

China Marine Vehicle Design and Manufacture Contest

2017

HONOR & AWARD

NWPU School-level Outstanding Student Award (three times & Top 15% student) *2017 - 2019*

NWPU Special Scholarships (four times & Top 8% student)

2017 - 2019

NWPU Outstanding Graduate of the University (Top 6% student)

2020

NWPU Outstanding Graduate of the School (Top 15% student)

2020

Four national awards,

including China Marine Vehicle Design and Manufacture Contest Outstanding Winner

2017 - 2019