

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: 87.94/100 Ranking: Top 10%

TOEFL: 104 (R28+L29+S22+W25) **GRE: 319** (Q170+V149+AW3.5)

Highlighted Courses: C Programming (96/100), Machine Learning (90/100), Signals & Systems (94/100), Circuit Analysis (90/100), Information Theory & Coding (98/100), Digital Electronic Technique (90/100), Digital Signal Processing (93/100), Principles of Automatic Control (92/100)

Nanyang Technological University (NTU), Singapore

Aug. 2021 - Present

M.S. in Signal Processing

GPA: 4.5/5.0

Highlighted Courses: EE7207 Neural & Fuzzy Systems (A+, 5.0/5.0), EE6427 Video Signal Processing (A+, 5.0/5.0), EE6222 Machine Vision (4.5/5.0), EE6101 Digital Communication Systems (3.5/5.0)

RESEARCH EXPERIENCE

Research Interest

Computer Vision, Machine Learning, Person Re-Identification, Infrared & Visible Visual 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

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
- Adopted 3D Convolutional Neural Networks, Residual Fully-Connected Layers and Transfer Learning Strategy to achieve the state-of-the-art results
- Collected two well-designed Visible & Infrared image datasets for different tasks
- Completed 1 work and accepted by IEEE ICICSP 2021

Rapid-Rich Object Search Lab, NTU

M.S. Dissertation Project

Sep. 2021 - Present

- **Supervisors:** [Prof. Yap-Peng Tan](#) and [Dr. Shan Lin](#)
- Researched on Visible & Infrared Person Re-Identification
- Collected new data, proposed new baseline and benchmarks and designed new network architecture

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