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 Grauduate
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 - Jun. 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, Machine Learning, Person Re-Identification, Infrared & Visible Visual Tasks

Rapid-Rich Object Search Lab, NTU
M.S. Dissertation Project & Research Associate *Sep. 2021 - Present*

· **Supervisors:** Prof. Yap-Peng Tan & Dr. Shan Lin
· Designed new network algorithms for Visible & Infrared Person Re-Identification
· Collected and annotated a new dataset which hundreds of cameras and tens of environments, which is closer to application scenario.
· Proposed new baseline and evaluation protocols for 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 well-designed 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*