

# Jiahao Ma

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## EDUCATION

- **Hebei University of Technology** China  
*Bachelor of Communication Engineering; GPA: 3.7/4 (Ranking: top 5%)* 2016 - 2020
- **Australian National University** Australia  
*MPhil of Machine Learning and Computer Vision* 2021 - current

## RESEARCH PROJECTS AND GRANTS

- **Research internship at UCLA ([Code](#))** Jul 2019 - Nov 2019  
*Hyperspectral image Classification with deep learning approach.*
  - **Ablation Study Design:** Data enhancement with conditional generative adversarial networks (CGAN) on the hyperspectral image. Explore the model's performance using 2D/3D convolution neural network.
- **Graduation Design ([Paper](#))** Dec 2019 - Jun 2020  
*Hand recognition based on Raspberry Pi and hand gesture dataset collection.*
  - **Algorithm Deployment:** Deploy light-weight hand gesture detection model on Raspberry Pi platform.
  - **Dataset Collection:** Proposed two comprehensive hand gesture dataset. Dataset1 for image classification contains 7 types of gesture, a total of 10490 images and 120 persons are collected. Dataset2 for object detection consists of 7 hand gestures, each amounting to one thousand photos requested from the Internet.
  - **Impact:** My graduation thesis won "Excellent Graduation Thesis of Hebei University of Technology Award" and "Tianjin Excellent Graduation Thesis Award" in 2020.
- **Data Business Analysis ([Code](#))** Jul 2020 - Jul 2021  
*Analysis of customer electricity consumption based on the distribution of solar electric panels.*
  - **Algorithm Design:** Proposed multitasking detection network to detect the spatial distribution of solar panels and used K-Means clustering to recommend the potential grid address.
  - **Impact:** Our technical solution was adopted by the Western Australia Energy Company, Synergy, and received the funding of **AUD 16000**.
- **Multiview cattle monitoring ([Dataset](#), [Code](#), [Paper](#))** Mar 2021 - Dec 2021  
*Multiview cattle detection and synthetic dataset generation.*
  - **MultiviewC dataset:** Proposed the MultiviewC dataset which mainly contributes to multiview cattle action recognition, 3D object detection and tracking.
  - **Algorithm Design:** Proposed multiview detection pipeline for cattle detection to handle the occlusion problem in crowded scene.
- **Multiview pedestrian detection ([Paper](#))** Dec 2021 - Jul 2022  
*Multiview pedestrian detection utilizing various camera views.*
  - **Algorithm Design:** Proposed a deep learning based multiview pedestrian detection algorithm for multiview pedestrian detection with very competitive results.
  - **Publication:** Already finished a paper and the paper is submitted on arXiv and is prepare to be submitted to AAAI

## PUBLICATIONS

- **Jiahao Ma**, Tailun Li and Jingfei He. "A comprehensive hand gesture dataset" 2020 International Conference on Computing and Data Science (CDS). IEEE, 2020.
- **Jiahao Ma**, Jinguang Tong, Shan Wang, Wei Zhao, Liang Zheng and Chuong Nguyen. "Voxelized 3D Feature Aggregation for Multiview Detection" arXiv preprint arXiv:2112.03471 (2021). Submitted to TIP 2023.
- **Jiahao Ma**, Zicheng Duan, Yunzhong Hou, Liang Zheng and Chuong Nguyen. "Multiview Detection with Cardboard Human Modeling" arXiv preprint arXiv:2207.02013 (2021). Submitted to AAAI 2023.

## HONORS AND AWARDS

- Outstanding Graduates, Hebei University of Technology, Jun.2020
- Merit Student for two consecutive years, Hebei University of Technology, 2019-2020
- Excellent Graduation Thesis of Hebei University of Technology and Tianjin Excellent Graduation Thesis, 2020

## SKILLS SUMMARY

- **Languages:** Python, Java, C/C++
- **Platform:** Unreal Engine 4, Unity
- **Libraries:** Tensorflow, Pytorch, Opencv, Open3D