

EDUCATION

2022 - 2024 *The University of Hong Kong (HKU)*

Hong Kong SAR

M.phil. in Computer Science

Supervisor : *Prof. Heming Cui*

2018 - 2022 *Lanzhou Jiaotong University (LZJTU)*

Lanzhou China

B.E. in Computer Science and Technology

GPA : 3.73/4.3 Rank : 5/121

RESEARCH INTERESTS

I'm particularly interested in **Efficient Deep Learning** and its applications in Robotics and Systems.

For example, the following two aspects:

Robot Perception : Monocular Depth Estimation; SLAM/Point Cloud; Semantic Separation.

Edge AI : TinyML; AutoML/NAS; Edge Video Analytics

PUBLICATIONS

- [1] **Design of GNSS-RTK Landslide Monitoring System Based on Improved Raida Criterion** EITCE '2022
*Junming Wang**, Yi Shi
The 6th International Conference on Electronic Information Technology and Computer Engineering.
- [2] **Application of BDS/GPS Fusion Relative Positioning in Slope Deformation Monitoring** RICAI '2020
Junming Wang , Jiuyuan Huo*, Lin Mu , Hamzah Murad Mohammed Al-Neshmi , Tao Ju
The 2nd International Conference on Robotics, Intelligent Control and Artificial Intelligence.
- [3] **Design of Beidou high-precision positioning geological disaster monitoring system**
Junming Wang , Jiuyuan Huo*, Cong Mu, Lin Mu, Hamzah Murad Mohammed Al-Neshmi, Meng Liu, Tao Ju
In the Microcontrollers & Embedded Systems, 2021.
- [4] **Geological disaster monitoring experimental platform based on Beidou**
Cong Mu, jiuyuan Huo*, *Junming Wang* , Lin Mu , Meng Liu , Jing Zhang
In the Scientific & Technical Information of Gansu, 2021.
- [5] **SAR image change detection based on fusion difference map and FCM algorithm**
Lin Mu, Jiuyuan Huo*, Hamzah Murad Mohammed Al-Neshmi, *Junming Wang*
In the Computer Science, 2021.

PATENTS

- 2020 **A geological disaster monitoring system based on Beidou satellites**
Jiuyuan Huo, *Junming Wang*, Lin Mu, Meng Liu, Hamzah Murad Mohammed Al-Neshmi, Cong Mu, Tao Ju
Gansu Province : CN212084334U.
- 2020 **Image change detection methods, devices, electronic equipment and storage media**
Jiuyuan Huo, Lin Mu, Meng Liu, Haina Zhang, Deli Zhang, Hamzah Murad Mohammed Al-Neshmi, *Junming Wang*.
Gansu Province : CN111476813A.

PROJECTDS

2020-2021 Beidou-based high-precision geological deformation monitoring system

- **Data collection:** RaspberryPi 4B connects sensors to collect data & GNSS-RTK positioning to monitor displacement
- **Edge computing:** Jetson Nano deploys algorithm model(Improved 3σ model and low-pass filtering)
- **Data transmission:** NB-IoT/IPv6 combined with MQTT to transmit data to Alibaba Cloud server
- **Application:** Visualization website (Spring; SpringMVC; MyBatis) & Time series analysis (ARIMA; GM(1,1))
- **Others:** ROS/SLAM robot automatic inspection & OpenCV lane line detection

2020-2021 Geological disaster monitoring system based on satellite remote sensing image

- **Lane line detection:** Gaussian filtering is used to denoise railway images, combined with ROI to extract regions of interest and Candy operator and Hough transform are used to detect railway tracks.
- **SAR remote sensing image:** The difference method and the logarithmic method are combined with the multiplicative fusion method to generate the SAR image difference map.
- **Transfer learning:** Combined with migration learning to fine-tune the VGG11 network, freeze the first 7 convolutional layers, and achieve 99.3% image recognition accuracy on the CIFAR10 data set.

EXPERENCES

06/2021 Research Assistant (3 years)

Lanzhou Jiaotong University, China

- Advisor: *Prof. Jinyuan Huo*

- Edge Computing and Machine Learning (EITCE2022, in submission)
- Embedded System & Internet of Things (RICAI 2020)
- SAR remote sensing image processing (Journal of Computer Science, in submission)

04/2021 Python Intern@Data Analysis Group (3 months)

Jiabao Trading, China

04/2020 Java Intern@Technology Group (2 months)

Hengsheng Electronic Technology, China

COMPETITION CERTIFICATE

02/2020	Amercian College Students Mathematical Contest in Modeling	Meritorious Winner
10/2019	National College Students Mathematical Contest in Modeling	National Second Prize
07/2020	National College Student E-commerce Challenge	National Second Prize
08/2020	National University Biological Network Design Competition	National Second Prize
11/2020	Undergraduate Embedded Artificial Intelligence Design Competition	National Second Prize
12/2020	Renewable Energy Excellent Technology Works Competition	National Third Prize

AWARD & SKILL

12/2021	The Stars of Self-improvement of Chinese College Students Scholarship (Top 1% of all students)
10/2020	Tsung-Dao Lee Scholarship (Top 1% of all students)
06/2020	The Second Prize Scholarship (Top 5% of all students)
2019 and 2020	Individual Scholarship (¥15000)
11/2020	Innovative-Student Award & Excellent Youth Communist