

Curriculum Vitae

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 : 3.96/4.3 Rank : 3/121
- 06 - 08/2022** *Oxford Machine Learning Summer School* *Oxford-UK*
Machine Learning | Summer School Program

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; NeRF/3D Vision; SLAM/Point Cloud.

Systems : Multi-Robot Systems; Distributed Robotic Learning; Edge Computing

PUBLICATIONS

- [1] **Design of GNSS-RTK Landslide Monitoring System Based on Improved Randa 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.

EXPERENCES

- 06/2022** Research Intern (**6 months**) **Chinese Academy of Sciences (IA), China**
- Advisor: *Prof. Chi Zhang & Prof. Zhaoxiang Zhang*
- 06/2021** Research Assistant (**3 years**) **Lanzhou Jiaotong University, China**
- Advisor: *Prof. Jiuyuan 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**

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 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.

COMPETITION CERTIFICATE

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|----------------|---|------------------------------|
| 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