Junming Wang | 王俊铭

Research Interests: Autonomous driving; Robotics; Computer Vision; Deep learning; 3D Vision

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EDUCATION

The University of Hong Kong **M.phil. in Computer Science** **2022.09 - 2024.06**

- Supervisor : *Prof. Heming Cui*
- Research Direction : Monocular Depth Estimation; Knowledge Distillation; Deep Reinforcement Learning

Lanzhou Jiaotong University **B.Eng. in Computer Science and technology** **2018.09 - 2022.06**

- GPA : 3.7/4.3
- Supervisor : *Prof. Jiuyuan Huo*

PUBLICATIONS

❖ Conferences

1. **Application of BDS/GPS Fusion Relative Positioning in Slope Deformation Monitoring**
   Junming Wang , Jiuyuan Huo*, Lin Mu , Hamzah Murad Mohammed Al-Neshmi , Tao Ju
   In Proceedings of the 2nd International Conference on Robotics, Intelligent Control and Artificial Intelligence (*RICAI*), 2020.
2. **Design of GNSS-RTK Landslide Monitoring System Based on Improved Raida Criterion**
   Junming Wang , Jiuyuan Huo*, Yi Shi , Hamzah Murad Mohammed Al-Neshmi (*In Submission*)
   The 3rd International Conference on Electronics and Communication, Network and Computer technology (*ECNCT*), 2021.

❖ Journals

1. **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.
2. **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.
3. **SAR image change detection based on fusion difference map and FCM algorithm**
   Lin Mu, Jiuyuan Huo*, Hamzah Murad Mohammed Al-Neshmi, Junming Wang (*In Submission*)
   *In the Computer Science,*2021.

❖ Patents

1. **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.
2. **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, 2020.

COMPETITION CERTIFICATE

- Amercian College Students Mathematical Contest in Modeling — **Meritorious Winner**
- National College Students Mathematical Contest in Modeling — **National Second Prize**
- National College Student E-commerce Challenge — **National Second Prize**
- National University Biological Network Design Competition — **National Second Prize**
- Undergraduate Embedded Artificial Intelligence Design Competition — **National Second Prize**
- Renewable Energy Excellent Technology Works Competition — **National Third Prize**

PROJECTDS

❖ **Beidou-based high-precision geological deformation monitoring system** **2020.03~2021.03**

- National College Student Innovation and Entrepreneurship Training Project, 10000RMB, Rank(1/5)
  - ***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

❖ **Geological disaster monitoring system based on satellite remote sensing image** **2020.01~2021.12**

- Lanzhou Talent Innovation and Entrepreneurship Technology Plan Project
  - ***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

Lanzhou Jiaotong University **2019.09~ 2021.06**

Research Assistant@Prof.Jiuyuan Huo's Group *Lanzhou, China*

- Embedded System & Internet of Things (*RICAI* 20)
- Edge Computing and Machine Learning (*ECNCT* 21, in submission)
- SAR remote sensing image processing (*Journal of Computer Science,* in submission)

Jiabao Trading Co., Ltd. **2021.01~2021.04**

Python Intern@Data Analysis Group *Zhangye, China*

- Use SQL to extract key indicators from the sales data of each store, form data reports, and support each team to make corresponding business decisions.
- Use Pandas/Matplotlib to visually analyze different types of commodities.

Hengsheng Electronic Technology Co., Ltd. **2020.02~2020.04**

Java Intern@Technology Group *Zhangye, China*

- Responsible for maintaining the warehouse management system, and writing maintenance reports and new functional technical solutions.
- Responsible for the reconstruction of the front-end interface of the website, assisting front-end engineers to complete system design and coding

AWARD & SKILL

- **Programming Language :** Python(Pytorch&Tensorflow) Java Matlab C/C++
- **English Score :** CET-4 CET-6 IELTS
- **Scholarships:**
  - ✓ The Stars of Self-improvement of Chinese College Students Scholarship (2021, top **1%** of all students)
  - ✓ Tsung-Dao Lee Scholarship (2020, top **1%** of all students)
  - ✓ The Second Prize Scholarship (2021, top **5%** of all students)
  - ✓ Individual Scholarship (2019, 2020)
  - ✓ Innovative-Student Award & Excellent Youth Communist (2020)