Junming Wang | 王俊铭

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Reserach Interest: *Computer Version ; Mobile computing;Deep learning; Internet of Things; Machine learning;*

Education

Lanzhou Jiaotong University **Computer science and Technology** **2018.09 ~ 2022.06**

GPA: 3.65/4.3 Rank 5/109

Scholarship: Li-zhengdao Scholarship**(The only winner in the school)**
Innovative Student title **(The only winner in the school)**
Advanced Individual of Technological Innovation(2021);Excellent youth Communist(2020)

Research Experience

Conference Paper

[1]Junming Wang, Jiuyuan Huo, Lin Mu, Hamzah Murad Mohammed Al-Neshmi, Tao Ju. 2020. Application of BDS/GPS Fusion Relative Positioning in Slope Deformation Monitoring[C]. In Proceedings of the 2020 2nd International Conference on Robotics, Intelligent Control and Artificial Intelligence(RICAI 2020).Association for Computing Machinery, New York, NY, USA, 340–344. ***(EI Compendex)***

Journal Paper

[1]Junming Wang, Huo Jiuyuan, Mu Cong, Mou Lin, Mi Yanshu, Liu Meng, Jutao. Design of Beidou high-precision positioning geological disaster monitoring system[J]. Microcontroller and Embedded System Application, 2021, 21(02):44-47.
[2]Mu Cong, Huo Jiuyuan, **Junming Wang**, Mou Lin, Liu Meng, Zhang Jing. Geological disaster monitoring experimental platform based on Beidou[J]. Gansu Science and Technology, 2021, 50(05): 1-4+11.
[3]Junming Wang, Huo Jiuyuan, Li Chaojie, Mi Yanshu, Mu Cong. Design and implementation of a GNSS-RTK landslide monitoring system based on the improved Laida criterion [J]. Electronic Devices, 2021. ***(Submitted)***
[4]Mu Lin,Huo Jiuyuan,Mi Yanshu,**Junming Wang.**SAR image change detection based on fusion difference map and FCM algorithm[J].Computer Science,2021. ***(Submitted)***

Patent

[1] Huo Jiuyuan, **Junming Wang**, Mu Lin, Liu Meng, Mi Yanshu, Mu Cong, Jutao. A geological disaster monitoring system based on Beidou satellites[P]. Gansu Province: CN212084334U, 2020-12-04.
[2]Huo Jiuyuan, Mou Lin, Liu Meng, Zhang Haina, Zhang Deli, Mi Yanshu, **Junming Wang**. Image change detection methods, devices, electronic equipment and storage media[P]. Gansu Province: CN111476813A, 2020-07-31.

Software copyright

[1] Huo Jiuyuan, **Junming Wang,** Guo Junbo. Geological deformation monitoring system V1.0 based on Beidou satellite, software copyright, 2021SR0054957, 2020.08.10
[2] Huo Jiuyuan, Mi Yanshu, **Junming Wang**. Landslide monitoring system V1.0 based on GNSS-RTK, software copyright, 20 March 10, 2020.

Skills List

- **Python**(Pandas;Numpy;OpenCV;Matplotlib) **Java**(Spring;SpringMVC;MyBatis) **Matlab** **C/C++**
- Understanding **Tensorflow2** **Pytorch**
- Familiar with **RaspberryPi** **Jetson Nano** **Intel-80C51**
- English: **CET-4** **CET-6** **IELTS(6.5)**

Project Experience

Beidou-based high-precision geological deformation monitoring system **Principal (Rank 1/5)**

National College Student Innovation and Entrepreneurship Training Project (excellent completion)

- Independently completed the overall system architecture design, realized the research and development of RTK reference stations, RTK monitoring stations and environmental monitoring systems, completed data collection using Raspberry Pi and NB-IoT, and realized data on the cloud with the help of Alibaba Cloud platform and MySQL database. And conducted a system stability test.
- The SSM architecture is used to complete the development of the host computer's Web site. At the same time, in view of the multi-path error existing in GNSS-RTK monitoring, combined with Edge computing, the improved Laida criterion method and low-pass filtering are combined to realize gross error detection and elimination on the edge side. While reducing the cloud server pressure, the monitoring accuracy is improved. Finally, the GM(1,1) model and ARIMA model are used to predict and analyze the displacement data.
- My team members developed the SLAM-based auxiliary monitoring of the inspection trolley, and tried to combine visible light communication (VLC) with the Received Signal Strength Indication (RSSI) to realize the train positioning in the tunnel and build a stable and efficient railway safety environment.

Research and development of the main dynamic potential sensing platform for geological disasters based on satellite high-resolution remote sensing images **Participate**

Lanzhou Science and Technology Plan Project

- In order to prevent railways from being affected by landslide disasters, Gaussian filtering is used to achieve image denoising, combined with ROI to extract regions of interest, and Canndy operator and Hough transform are used to detect railway tracks and prevent the occurrence of foreign body intrusion.
- Using difference method and logarithmic method combined with multiplication fusion method to generate SAR image difference map.
- After learning the knowledge of transfer learning, using Pytorch to fine-tune the VGG11 network, freezing the first 7 convolutional layers, and achieving 99.3% image recognition accuracy on the CIFAR10 data set.
- Try to apply semantic segmentation to remote sensing image processing, learn a paper Context Encoding for Semantic Segmentation in CVPR2018, and understand Context Encoding Module.

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**
- "Challenge Cup" Contest of Undergraduates' Entrepreneurship Plan **Provincial Gold Award**
- National 3D Competition 13th Anniversary Elite League **Provincial Grand Prize**
- Blue Bridge Cup Information Technology Competition **Provincial Third Prize**
- China-U.S. Youth Maker Competition **Excellence Award**

Intern Experience

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

- Assist data analysts to use SQL to extract key indicators from the sales data of each store, and form a data board to support each team in making corresponding business decisions.
- Use Python to perform data visualization analysis on different types of goods in each store, and write data reports.
- Participate in qualitative and quantitative analysis of important indicators in daily sales, and explore commercial realization opportunities in products and sales strategies.

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

- Responsible for maintaining the warehouse management system, in-depth exploration and analysis of business requirements, and writing maintenance reports and new functional technical solutions.
- Responsible for the reconstruction of the front-end interface of the company's website, assisting front-end engineers to complete system design and coding
- Participate in business needs discussion and review product design.