Song Ying Xu

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Education

China University of Geosciences (Wuhan)), Hubei, China 09/2012 – Current

Major: Earth Exploration and Information Technology, Master & Doctor, Anticipated Graduation: 06/2019

China University of Geosciences (Wuhan)), Hubei, China 09/2008 – 06/2012

Major: Earth Information Science and Technology, Bachelor

Work Experience

The Institude of Crustal Dynamics, Beijing, China 08/2015 – 11/2016

Exchange Student Interferometric Synthetic Aperture Radar (InSAR) theory learning, seismic data processing

- Learned InSAR theoretical knowledge and microwave remote sensing knowledge
- processed coseismic deformation fields of multiple earthquakes
- Learned a lot about Linux programming and system

Articles

- Song Y., Niu R., Xu S., et al. Landslide Susceptibility Mapping Based on Weighted Gradient Boosting Decision Tree in Wanzhou Section of the Three Gorges Reservoir Area (China)[J]. ISPRS Int. Geo-Inf. 2019, 8, 4.
- Song Y., Niu R., Zhang J., et al. Comparison of Change Detection Methods in Remote Sensing [J]. Bulletin of the Institude of Crustal Dynamics, 2016(2). (In Chinese)
- Song Y., Niu R., Zhang J., et al. The Deformation Measurement of Laohushan Fault Based on the FRAM-SBAS Method[C]// Dragon 3 Final Results and Dragon 4 Kick-Off. Dragon 3 Final Results and Dragon 4 Kick-Off, 2016.

Projects Experience

Rapid monitoring and evaluation of major engineering geological disasters (National High-Tech Research and Development Program "863" project)

Python progamming language running on QGIS.

- Responsible for the development of "Landslide Hazard Risk Monitoring and Evaluation System"
- The software system mainly used landslide geological disasters in the Three Gorges Reservoir Area
- The main demonstration object was to engineer and speed up the landslide sensitivity mapping process and provided reference for disaster prevention and early warning in the reservoir area

Geological environment remote sensing monitoring application subsystem (China Geological Environment Monitoring Institute)

C++/Qt progamming language.

- Responsible for the development of the software system
- The software system took geological disasters such as landslides, collapses and mudslides as the main research objects, and used "pipeline" tools to extract and process the hazard factors, providing a basis for geological environment monitoring

Geodatabase Construction and Remote Sensing Interpretation in the Three Gorges Reservoir Area (Three Gorges Reservoir Area Command Center)

- Mainly responsible for researching high-resolution image orthophoto production methods and processes
- Research on automatic interpretation methods for roads and surface coverings
- Manual interpretation of artificially interpreted waste slag piles and typical geological disasters (landslides) in the reservoir area

Wuzhong Pipeline Geological Disaster Risk Assessment Modeling and System Development

C# progamming language running on ArcEngine.

- Responsible for system development
- Calculation of stability and failure probability of landslides and collapses based on engineering geology and hydrogeology

- Using GIS, RS and other 3S technologies to carry out regional geological disaster risk assessment, and then realize the monitoring and evaluation of geological disasters along the pipeline

Research on Key Technologies of Remote Sensing Monitoring of Geological Hazards Based on Domestic Resource Satellite

Java Script progamming language running on Google Earth Engine.

- Carry out the interpretation of the "8.31" rainstorm landslide in Chongqing
- Development of landslide geological disaster landslide susceptibility risk dynamic evaluation system based on Google Earth Engine cloud platform
- Write project related documents

♡ Achievements

First Prize of Hubei University Student Chinese Chess Championship	2015
Third Prize of Hubei University Student Chinese Chess Championship	2017
National Graduate Mathematical Modeling Competition Excellence Award	2017
The 6th "Oriental Cup" National University Students Exploration Geophysical Competition Excellence Award	2018

Skills

- **Programming Languages**: **multilingual developer** (not limited to any specific language), and especially experienced in Java/Python/C#/Matlab, comfortable with C/C++/Java Script/Tex
- **Software**: ArcGIS, ENVI, SARscape, Matlab, SPSS, QGIS
- **Developing Tools**: can adapt to any editors/OSs, usually use Visual Studio Code or Visual Studio 2015 under Windows 10