



Dawei Liu

Personal Information

Name: Dawei Liu

Gender: Male

Date of Birth: 12th August, 1991

Place of Birth: Jinzhong, Shanxi, China

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Research Focus

Seismic signal processing, deep learning, tensor decomposition, and time-frequency analysis

Skills

Tensorflow, Python, GPU, CUDA, Matlab

Education

- PhD candidate in information and communication engineering, Xi'an Jiaotong University, Xi'an, Shaanxi, China, September 2018
- M.S. candidate in electronics and communication engineering, Xi'an Jiaotong University, Xi'an, Shaanxi, China, September 2015- July 2018
- Bachelor of engineering (Communication engineering), Chang'an University, Xi'an, Shaanxi, China, September 2009- June 2013

Peer-reviewed papers

1. **Dawei Liu**, Xiangfang Li, WeiWang, Xiaokai Wang, Zhensheng Shi, and Wenchao Chen, "Eliminating harmonic noise in vibroseis data through sparsity promoted waveform modeling," Geophysics (accepted).
2. Xiaokai Wang, Zhizhou Huo, **Dawei Liu**, Weiwei Xu, and Wenchao Chen, (2022), "A common-reflection-point gather random noise attenuation method based on the synchrosqueezing wavelet transform," Interpretation 10: SA59-SA67.
3. Xiaokai Wang, **Dawei Liu***, and Wenchao Chen, "Accelerating Seismic Dip Estimation With Deep Learning," in IEEE Geoscience and Remote Sensing Letters, vol. 19, pp. 1-5, 2022.
4. **Dawei Liu**, Lei Gao, Xiaokai Wang, and Wenchao Chen, (2021), "A dictionary learning method with atom splitting for seismic footprint suppression," Geophysics, 86: V509-V523.
5. Yanglijiang Hu, **Dawei Liu**, Xiaokai Wang, Zhonghua Zhao and Wenchao Chen,



"Attenuation of the Multiple Reflection-Refraction in 2-D Common-Shot Gather via Random-Derangement-Based FX Cadzow Filter," in IEEE Geoscience and Remote Sensing Letters, vol. 19, pp. 1-5, 2022.

6. **Dawei Liu**, Zheyuan Deng, Cheng Wang, Xiaokai Wang and Wenchao Chen, "An Unsupervised Deep Learning Method for Denoising Prestack Random Noise," in IEEE Geoscience and Remote Sensing Letters, vol. 19, pp. 1-5, 2022.

7. **Dawei Liu**, Wei Wang, Xiaokai Wang, Cheng Wang, Jiangyun Pei and Wenchao Chen, "Poststack Seismic Data Denoising Based on 3-D Convolutional Neural Network," in IEEE Transactions on Geoscience and Remote Sensing, vol. 58, no. 3, pp. 1598-1629, March 2020.

Keynote Presentations

1. **Dawei Liu**, Xiaohai Yang, Xiaokai Wang, Haibo Mao, Mauricio D. Sacchi, and Wenchao Chen, (2021), "Deep learning for prestack strong scattered noise suppression," SEG Technical Program Expanded Abstracts : 1601-1605.

2. Haoqi Zhang, **Dawei Liu**, Xiaokai Wang, and Wenchao Chen, (2021), "Attenuation of multiple reflection-refraction in tau-p domain via morphological component analysis," SEG Technical Program Expanded Abstracts : 2974-2978.

3. Qinlong Hou, **Dawei Liu**, Xiaokai Wang, and Wenchao Chen, (2021), "Adaptive DAS coupling noise suppression based on local MCA," SEG Technical Program Expanded Abstracts : 2979-2983.

4. Chen Zhao, Li Jiang, Xiaokai Wang, **Dawei Liu**, Zhensheng Shi, and Wenchao Chen, (2021), "Prestack seismic noise attenuation based on 3D CWT," SEG Technical Program Expanded Abstracts : 2834-2838.

5. **Dawei Liu**, Wenchao Chen, Mauricio D. Sacchi, and Hongxu Wang, (2020), "Should we have labels for deep learning ground roll attenuation?," SEG Technical Program Expanded Abstracts : 3239-3243.

6. **Dawei Liu**, Zheyuan Deng, Xiaokai Wang, Wei Wang, Zhensheng Shi, Cheng Wang, and Wenchao Chen, (2020), "Must we have labels for denoising seismic data based on deep learning?," SEG Global Meeting Abstracts : 31-35.

7. **Dawei Liu**, Xiaokai Wang, Zhensheng Shi, Yanhui Zhou, and Wenchao Chen, (2019), "A convolutional neural network for seismic dip estimation," SEG Technical Program Expanded Abstracts : 2634-2638.

8. **Dawei Liu**, Xiaokai Wang, Wenchao Chen, Yanhui Zhou, Wei Wang, Zhensheng Shi, Cheng Wang, and Chunlin Xie, (2019), "3D seismic waveform of channels extraction by artificial intelligence," SEG Technical Program Expanded Abstracts : 2518-2522.

9. **Dawei Liu**, Wei Wang, Wenchao Chen, Xiaokai Wang, Yanhui Zhou, Zhensheng



Shi. Random noise suppression in seismic data: what can deep learning do? [C].2018 SEG Annual Meeting, 2018.

10. Fen Zhang, **Dawei Liu**, Xiaokai Wang, Wenchao Chen. Random noise attenuation method for seismic data based on deep residual network[C]. 2018 CPS/SEG Annual Meeting, 2018.

11. Siqi Chi, Wenchao Chen, Lu Zhang, **Dawei Liu**, Jianyou Chen. Three-dimensional seismic texture attributes analysis based on removed strong background noise[C]. 2018 CPS/SEG Annual Meeting, 2018.

12. Jianyou Chen, Wenchao Chen, Xiaokai Wang, **Dawei Liu**. The DAS coupling noise removal using alternating projection iteration with united sparse transforms. 2018 CPS/SEG Annual Meeting, 2018.

13. Jianyou Chen, Yuefeng Pang, Wenchao Chen, Lei Gao, **Dawei Liu**. The analysis of space dimensionality reduction error in SVD filtering algorithm with application to VSP wavefield separation [C].2018 CPS/SEG Annual Meeting, 2018.

Awards and Group Memberships

National Award scholarship, October 2020

School outstanding postgraduate Cadre, September 2016

School outstanding graduate students, September 2013

Self-assessment

Energetic, dynamic and honest

Excellent ability of systematical management

Ability to work independently, mature and resourceful

Hobbies

Basketball, cycling, badminton, table tennis