

# Sheng-Jie Liu

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## EDUCATION

B.S.      Geographic Information Science, Sun Yat-Sen University, China, 2019

## PROFESSIONAL EXPERIENCE

Oct 2019 –      The University of Hong Kong  
Research Assistant, Department of Physics  
Jul–Aug 2019      OneSpace Technology Co., Ltd.  
Remote Sensing Engineer, Department of Spatial Information

## PUBLICATIONS

### Journal Articles

- 2020      **Liu, S.**, Shi, Q., and Zhang, L. “Few-shot Hyperspectral Image Classification with Unknown Classes Using Multitask Deep Learning.” *IEEE Transactions on Geoscience and Remote Sensing*, Early Access. doi:10.1109/TGRS.2020.3018879
- 2020      **Liu, S.J.**, Luo, H., and Shi, Q. “Active Ensemble Deep Learning for Polarimetric Synthetic Aperture Radar Image Classification.” *IEEE Geoscience and Remote Sensing Letters*, Early Access. doi:10.1109/LGRS.2020.3005076
- 2020      **Liu, S.**, and Shi, Q. “Local Climate Zone Mapping as Remote Sensing Scene Classification Using Deep Learning: A Case Study of Metropolitan China.” *ISPRS Journal of Photogrammetry and Remote Sensing*, 164, 229–242. doi:10.1016/j.isprsjprs.2020.04.008
- 2019      **Liu, S.**, and Shi, Q. “Multitask Deep Learning With Spectral Knowledge for Hyperspectral Image Classification.” *IEEE Geoscience and Remote Sensing Letters*, Early Access. doi:10.1109/LGRS.2019.2962768
- 2019      **Liu, S.**, Qi, Z., Li, X., and Yeh, A.G.O. “Integration of Convolutional Neural Networks and Object Based Post-Classification Refinement for Land Use and Land Cover Mapping with Optical and SAR Data.” *Remote Sensing* 11 (6), p. 690. doi:10.3390/rs11060690

### Conference Proceedings

- 2021      **Liu, S.**, So, C.W., and Pun, C.S.J. “Analyzing Long-Term Artificial Light at Night Using VIIRS Monthly Product with Land Use Data: Preliminary Result of Hong Kong.” Accepted to 2021 *IEEE International Geoscience and Remote Sensing Symposium*. [Preprint at sjliu.me/preprint](https://preprint.sjliu.me/preprint)

- 2021 **Liu, S.**, and Shi, Q. "Multi-Label Local Climate Zone Mapping as Scene Classification Using Very High Resolution Imagery: Preliminary Result of Hong Kong." Accepted to *2021 IEEE International Geoscience and Remote Sensing Symposium*. [Preprint at sliu.me/preprint](https://arxiv.org/abs/2012.04441)
- 2018 **Liu, S.**, Luo, H., Tu, Y., He, Z., and Li, J. "Wide Contextual Residual Network with Active Learning for Remote Sensing Image Classification." *2018 IEEE International Geoscience and Remote Sensing Symposium*, July 2018, pp. 7145-7148. doi:10.1109/IGARSS.2018.8517855

### Conference Abstracts

- 2021 **Liu, S.**, So, C.W., Chang, N.Y.J., and Pun, C.S.J. "The relationship between night sky brightness and remote sensing data: Preliminary result from LuoJia-1 and the International Space Station." Accepted to *7th International Conference on Artificial Light at Night (ALAN)*.
- 2020 **Liu, S.**, and Shi, Q. "Deep learning for remote sensing image classification: Scene classification of local climate zone and fine-grained classification with unknown classes." In *3rd Urban Remote Sensing Symposium*, November 2020, Shanghai, China.
- 2020 Pun, C.S.J., So, C.W., Chang, N.Y.J., **Liu, S.**, Canas, L., Walker, C.E., and Cheung, S.L. "A Multinational Study of Night Sky Brightness patterns: preliminary results from the Globe at Night – Sky Brightness Monitoring Network (GaN-MN)." In *6th International Conference on Artificial Light at Night (ALAN)*, June 2020, Lleida, Catalonia, Spain.

### Manuscripts In Review & Working Papers

- 2021 **Liu, S.**, So, C.W., Chang, N.Y.J., and Pun, C.S.J. "Understanding remotely sensed nighttime lights with field measurements and land use data: A case study of Hong Kong." (manuscript available on request)
- 2021 **Liu, S.**, So, C.W., Ho, D.H.C., Shi, Q., and Pun, C.S.J. "High inequality of artificial light due to commercial and sports lighting in Hong Kong."
- 2021 **Liu, S.**, So, C.W., and Pun, C.S.J. "Analyzing the Sources and Variations of Satellite-Observed Night Lights Between 2012 and 2020 in Hong Kong."

### HONORS AND AWARDS

- 2020 Arctic Code Vault Contributor, GitHub
- 2019 The 1st Orbita Hyperspectral Data Processing Paper Contest, Second Prize (5,000 CNY)
- 2018 Scholarship of the EMBA Alumni Association for Real Estate of Sun Yat-Sen University
- 2018 The First Prize of Excellent Undergraduate Scholarship, Sun Yat-Sen University
- 2018 Student Travel Grant (1650 USD, declined), IGARSS 2018, IEEE Geoscience and Remote Sensing Society

### SERVICE

#### Professional Activities

- Member (2021–), IEEE GRSS Image Analysis and Data Fusion (IADF) Technical Committee
- Member (2018–), IEEE Geoscience and Remote Sensing Society (GRSS)

## **Academic Journal Peer Review**

*Knowledge-Based Systems*

*Pattern Recognition Letters*

*Urban Climate* (2)

*IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* (2)

*Remote Sensing Letters* (3)

*Scientific Reports* (2)

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