

# Shengjie Liu

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## EDUCATION

- Ph.D. Population, Health and Place, University of Southern California, 2026 (expected)  
B.S. Geographic Information Science, Sun Yat-Sen University, 2019

## EXPERIENCE

- 2019–21 The University of Hong Kong  
Research Assistant, Department of Physics

## PUBLICATIONS

### Manuscripts under Review

- 2022 Kyba, C.C.M., M. Aubé, S. Bará, A. Bertolo, C.A. Bouroussis, S. Cavazzani, B.R. Espey, F. Falchi, G. Gyuk, A. Jechow, M. Kocifaj, Z. Kolláth, H. Lamphar, N. Levin, S. Liu, S.D. Miller, S. Ortolani, C.S.J. Pun, S.J. Ribas, T. Ruhtz, A.S. de Miguel, M. Schneider, R.M. Shrestha, A. Simoneau, C.W. So, T. Storch, K.P. Tong, D. Turnshek, K. Walczak, J. Wang, Z. Wang, and J. Zhang. “The benefit of multiple angle observations for visible band remote sensing using night lights.” Submitted to *Journal of Geophysical Research - Atmospheres*. Preprint at *Earth and Space Science Open Archive ESSOAr*. doi:10.1002/essoar.10507575.1

### Journal Articles

- 2021 Liu, S., Z. Zhou, H. Ding, Y. Zhong, and Q. Shi. “Crop Mapping Using Sentinel Full-Year Dual-Polarized SAR Data and a CPU-Optimized Convolutional Neural Network With Two Sampling Strategies.” *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 14, pp. 7017–7031. doi:10.1109/JSTARS.2021.3094973
- 2021 Liu, S., Q. Shi, and L. Zhang. “Few-shot hyperspectral image classification with unknown classes using multitask deep learning.” *IEEE Transactions on Geoscience and Remote Sensing*, 59(6), pp. 5085–5102. doi:10.1109/TGRS.2020.3018879
- 2021 Liu, S., H. Luo, and Q. Shi. “Active Ensemble Deep Learning for Polarimetric Synthetic Aperture Radar Image Classification.” *IEEE Geoscience and Remote Sensing Letters*, 18(9), pp. 1580–1584. doi:10.1109/LGRS.2020.3005076
- 2020 Liu, S., and Q. Shi. “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, pp. 229–242. doi:10.1016/j.isprsjprs.2020.04.008
- 2020 Liu, S., and Q. Shi. “Multitask Deep Learning With Spectral Knowledge for Hyperspectral Image Classification.” *IEEE Geoscience and Remote Sensing Letters*, 17(12), pp. 2110–2114. doi:10.1109/LGRS.2019.2962768
- 2019 Liu, S., Z. Qi, X. Li, and A.G.-O. Yeh. “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

- 2022 Liu, S., and Q. Shi. “Estimating PM<sub>2.5</sub> and PM<sub>10</sub> on Zhuhai-1 Hyperspectral Imagery.” Accepted to *Proceedings of IEEE International Geoscience and Remote Sensing Symposium IGARSS*, 2022.
- 2021 Liu, S., C.W. So, and C.S.J. Pun. “Analyzing Long-Term Artificial Light at Night Using Viirs Monthly Product with Land Use Data: Preliminary Result of Hong Kong.” *Proceedings of IEEE International Geoscience and Remote Sensing Symposium IGARSS*, 2021, pp. 6821–6824. 10.1109/IGARSS47720.2021.9553915
- 2021 Liu, S., and Q. Shi. “Multi-Label Local Climate Zone Mapping as Scene Classification Using Very High Resolution Imagery: Preliminary Result of Hong Kong.” *Proceedings of IEEE International Geoscience and Remote Sensing Symposium IGARSS*, 2021, pp. 6809–6812. 10.1109/IGARSS47720.2021.9553086

- 2018 Liu, S., H. Luo, Y. Tu, Z. He, and J. Li. "Wide Contextual Residual Network with Active Learning for Remote Sensing Image Classification." *Proceedings of IEEE International Geoscience and Remote Sensing Symposium IGARSS*, 2018, pp. 7145-7148. 10.1109/IGARSS.2018.8517855

#### Conference Abstracts

- 2022 Pun, C.S.J., C.W. So, S. Liu., L. Canas, C.E. Walker, and S.L. Cheung. "Measurement of cloud amplification effect over a wide range of night sky brightness observations with the GaN-MN." In *LPTMM - Light Pollution Theory Modeling and Measurement*, June 2022, Santiago de Compostela, Galicia, Spain. Link at <http://lptmm.org/>
- 2022 Pun, C.S.J., C.W. So, and S. Liu. "Analyzing the Sources and Variations of Night Lights Between 2012 and 2019 in Hong Kong from VIIRS Monthly Products." In *LPTMM - Light Pollution Theory Modeling and Measurement*, June 2022, Santiago de Compostela, Galicia, Spain. Link at <http://lptmm.org/>
- 2021 Liu, S., C.W. So, and C.S.J. Pun. "The relationship between night sky brightness and remote sensing data: Preliminary result from Luojia-1 and the International Space Station." In *7<sup>th</sup> International Conference on Artificial Light at Night (ALAN)*, June 2021, Lleida, Catalonia, Spain. Link at <http://artificiallightatnight.org>
- 2021 So, C.W., N.Y.J. Chang, S. Liu, L. Canas, C.E. Walker, S.L. Cheung, and C.S.J. Pun. "A Multinational Study of Night Sky Brightness Patterns: Preliminary Results from the Globe at Night – Sky Brightness Monitoring Network (GaN-MN) of the Study of Cloud Amplification on NSB." In *7<sup>th</sup> International Conference on Artificial Light at Night (ALAN)*, June 2021, Lleida, Catalonia, Spain. Link at <http://artificiallightatnight.org>
- 2020 Pun, C.S.J., C.W. So, N.Y.J. Chang, S. Liu, L. Canas, C.E. Walker, and S.L. Cheung. "A Multinational Study of Night Sky Brightness Patterns: Preliminary Results from the Globe at Night – Sky Brightness Monitoring Network (GaN-MN)." In *6<sup>th</sup> International Conference on Artificial Light at Night (ALAN)*, June 2020, Lleida, Catalonia, Spain. Link at <http://artificiallightatnight.org>

#### GRANTS AND AWARDS

##### Awards and Honors

- 2019 Orbita Hyperspectral Data Processing Paper Contest, Second Prize, 5000 CNY (700 USD)
- 2018 IEEE Geoscience and Remote Sensing Society IGARSS Student Travel Grant, 1650 USD
- 2018 Scholarship of the EMBA Alumni Association for Real Estate of Sun Yat-Sen University, 3000 CNY (428 USD)

##### Grants

- 2022 Investigating urban heat islands and diurnal temperature range in Los Angeles with Landsat imagery and a thermal camera. USC Dornsife PhD Academy Scholarship and Research Fund Award, 485 USD
- 2017–18 Using DMSP/OLS night lights to capture the collapse and rise of post-Soviet states. National Undergraduate Innovative Project, No. 201810558050, 10,000 CNY (1400 USD)

#### SERVICE

##### Academic Journal Peer Review

*IEEE Geoscience and Remote Sensing Letters*  
*IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*  
*IEEE Transactions on Geoscience and Remote Sensing*  
*Knowledge-Based Systems*  
*Pattern Recognition Letters*  
*Remote Sensing Letters*  
*Scientific Reports*  
*Urban Climate*

##### Memberships

IEEE Geoscience and Remote Sensing Society (GRSS)  
 IEEE GRSS Image Analysis and Data Fusion (IADF) Technical Committee

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