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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

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://arxiv.org/abs/2108.00000)
- 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 sjliu.me/preprint](https://arxiv.org/abs/2108.00000)

- 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.**, Zhou, Z. et al. “Crop Mapping Using Sentinel Full-Year PolSAR Data and a CPU-Optimized Convolutional Neural Network With Two Sampling Strategies.” Submitted to *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Major Revision.
- 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 Satellite 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)

Updated May 2021