

Generative Remote Sensing Foundation Models

SPEAKER Dr. Zhengxia Zou

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TIME 2:00 PM - 3:00 PM

VENUE CS Seminar Room, Y6405, 6th Floor,
Yellow Zone, Yeung Kin Man Academic
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Tat Chee Avenue, Kowloon Tong

ABSTRACT

In recent years, generative visual foundation models, such as Stable Diffusion and Sora, have attracted significant attention from academia and industry. Integrating these models with domain-specific knowledge to generate realistic images and videos, endowed with an understanding of the world, has become a crucial trend across multiple vertical fields. Remote sensing science, as a vital area closely linked to national welfare and people's livelihoods, particularly benefits from developing tailored generative visual foundation models. In this talk, the speaker will first discuss the key challenges and difficulties in this field, then, introduce their recent research works, including MetaEarth—a global-scale remote sensing image generation model—and Text2Earth, a multimodal and controllable remote sensing image generation model. Finally, the talk will explore potential applications and research opportunities of this emerging research direction.

BIOGRAPHY

Dr. Zhengxia Zou received his BS degree and his Ph.D. degree from Beihang University in 2013 and 2018. He is currently a Professor at the School of Astronautics, Beihang University. During 2018-2021, he was a postdoc research fellow at the University of Michigan, Ann Arbor. His research interests include remote sensing image processing, computer vision, and deep learning. He has published over 80 peer-reviewed papers in top-tier journals and conferences, including Proceedings of the IEEE, Nature Communications, IEEE Transactions on Pattern Analysis and Machine Intelligence, IEEE Transactions on Geoscience and Remote Sensing, IEEE / CVF Computer Vision and Pattern Recognition (CVPR), International Conference on Computer Vision (ICCV), etc, with over 8000 Google Scholar citations. His research has been recognized by NSFC and featured in Xinhua News Agency, New Scientist, AAAS, and MIT Technology Review. Dr. Zou serves as an IEEE Senior Member and the Associate Editor for IEEE Transactions on Image Processing. He is also a special issue editor for Communications Engineering (Nature Portfolio).

All are welcome!



In case of questions, please contact Prof HOU Junhui at jh.hou@cityu.edu.hk, or visit the CS Departmental Seminar Web at <https://www.cs.cityu.edu.hk/events/cs-seminars/recent-cs-colloquiums>.