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Ph.D. School of Electrical and Electronics Engineering and Computer Science

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Ensemble Learning for Remote Sensing Image Processing

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Zoom link: <https://bit.ly/40HKCLn>

Abstract: Ensemble learning, as an advanced machine learning paradigm, has got more and more applications in remote sensing community. Ensemble Learning refers to the procedures employed to train multiple learning machines and combine their outputs, treating them as a “committee” of decision makers, which is suitable for combine the advantages of different remote sensing image processing algorithms. In this talk, after a brief introduction to the recent developments of remote sensing and the principles of ensemble learning, the applications of ensemble learning to remote sensing image classification and change detection will be presented. For image classification, the decision level fusion of multiple classifiers is introduced first, and then Rotation Forest and its improvements are explored in detail. For change detection, the ensemble learning of multi-resolution images, hybrid features sets and multiple change detectors are discussed.

Bio: **Peijun Du** is a Professor of Remote Sensing and Geographic Information Science with Nanjing University, China, and also a senior member of IEEE. He received his Ph.D. degree from China University of Mining and Technology in 2001, and was a senior visiting scholar at the University of Nottingham, UK and Grenoble Institute of Technology, France. His research interests focus on advanced image processing and machine learning techniques, including support vector machine, ensemble learning, sparse representation and active learning, for remote sensing image classification, change detection, environmental and urban remote sensing. He has published more than 120 articles in international peer-reviewed journals, with more than 60 published in IEEE TGRS/JSTARS/GRSL and ISPRS Journal of Photogrammetry and Remote Sensing.

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