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Hongmin Gao received the B.S. degree in communication engineering from Hohai University, Nanjing, China, in 2006, and the Ph.D. degree in computer application technology from Hohai University, Nanjing, China, in 2014. He is currently a Professor with the College of Computer and Information, Hohai University. He is also the deputy director of Jiangsu marine monitoring equipment and data processing engineering center. In the last five years, he was undertaking two research projects supported by the National Natural Science Foundation of China (NSFC), one research project supported by Jiangsu Natural Science Foundation, one research project supported by transformation of scientific and technological achievements in Jiangsu Province and participating the National Key R&D Program of China. Part of the research results have been applied in water resource flood disaster monitoring and operation decision supporting System of water conservancy, which won the second prize of Jiangxi Province Science and Technology Advancement Reward in 2018. His research interests include deep learning, information fusion, and image processing in remote sensing.

Speech Title: “Lightweight Multiscale Network with Mixed Depthwise Convolution for Hyperspectral Image Classification”

Abstract: The spatial feature especially spatial multi-scale feature has been put on a significant role in hyperspectral image classification. Although some recent methods have proposed multi-scale feature extraction schemes, more computing and storage resources were consumed. To address the aforementioned issue, a novel multi-scale residual network (MSRN) is proposed for HSI classification. Specifically, the proposed MSRN introduces depthwise separable convolution (DSC) and replaces the ordinary depthwise convolution in DSC with mixed depthwise convolution (MDConv), which mixes up multiple kernel sizes in a single depthwise convolution operation. The DSC with mixed depthwise convolution (MDSConv) can not only explore features at different scales from each feature map but also greatly reduce learnable parameters in the network. In addition, a multiscale residual block (MRB) is designed by replacing the convolutional layer in an ordinary residual block with the MDSConv layer. The MRB is used as the major unit of the proposed MSRN. Furthermore, to enhance further the feature representation ability, the proposed network adds a high-level shortcut connection (HSC) on the cascaded two MRBs to aggregate lower level features and higher level features. Experimental results on three

benchmark HSIs demonstrate the superiority of the proposed MSRN method over several state-of-the-art methods.