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Bio: Jing Yang received the PhD degree in mechanical and electronic engineering from Guizhou University,in 2020. From August 2018 to September 2019, he was awarded a scholarship by the China Scholarship Council (CSC) under the State Scholarship Fund to pursue his study with Oklahoma State University, as a Joint Ph.D. Student with the Institute for Mechatronic Engineering, where he joined the Guoliang Fan's Group, as a Professor. From October 2022 to October 2023, he was a visiting scholar studying in the team of Professor Wu Fan(NSFC Distinguished Young Scholars) from Shanghai Jiao Tong University. He is currently an assistant professor with the State Key Laboratory of Public Big Data, Guizhou University, China. His research interests include Open domain visual learning, intelligent robot, and Edge Computing. He has published more than 50 peer-reviewed papers in the related area, including well-archived international journals such as the International Journal of Intelligent Systems, the Micromachines, the Journal of Sensors, the International Journal of Advanced Robotic Systems. he has served on the editorial board of the IEEE Transaction on Semiconductor Manufacturing, the Journal of Computational Design and Engineering and peer reviewers for several international conferences and journals.

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Speech Title: Catastrophic forgetting problem for continuous learning in the open world

Speech Abstract: Catastrophic forgetting is a common problem in neural networks, where information from old tasks is lost after training a new task. This report illustrates some of the efforts our team has done to mitigate catastrophic forgetting of the open-domain vision model. When the open-domain vision model learns a new task, the model does not know what the important features are. To enable the neural network to gradually acquire new knowledge, we propose a parameter update method based on the Bayesian criterion and introduce the diagonal Fisher information matrix to significantly reduce the amount of calculations. , improve parameter update efficiency. Secondly, the importance of calculating parameters for the sensitivity of the model prediction function is proposed. In view of the inability of open-domain vision models to extract reliable and stable knowledge from old models, we propose a new mean distillation target detection method based on multi-network models. This method explores the performance of multi-network structure two-stage target detectors in different network structures.