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Bio: Yi Zhao Member IEEE (M'14) received the M.Eng. degree from Pierre and Marie Curie University (current Sorbonne University), France, in 2010 and the Ph.D. degree from the University of Toulon, France, in 2014. He is currently associate Professor at School of Electronics and Control Engineering, Chang'An University since 2014. He is also the co-founder and chief scientist in JYI(Shaoxing) intelligent-tech Inc. since 2018. His research interests include computational intelligence, machine learning and sensory application. He has been an Active Reviewer of more than 10 major IEEE technical journals (TII, TPAMI, TIE, Sensor Journal, etc) and top conferences and Technical Program Committee Member for 30 international conferences since 2014.

Speech Title: TBA

UAV-vision based Oilfield Anomaly Detection via Optimized LBAM-YOLO

Speech Abstract:

Anomaly detection remains a great challenge for Oilfields. At present, the using of Unmanned Aerial Vehicles (UAVs) is crucial in promptly identifying and addressing these anomalies, ensuring the safe operation of oilfields. However, detecting ground-level oilfield anomalies from a high-altitude is challenging due to the complexity and diversity of oil leakage features. Therefore, this study proposes an improved attention mechanism based target detection model termed LBAM-YOLO. The enhanced algorithmic model mainly incorporates the CBAM (Convolutional Block Attention Module) attention mechanism augmented with label information. Ablation experiments were conducted to evaluate the performance of our proposal. It demonstrates that compared to prevalent models, our method achieves more satisfactory performance in terms of recall and F1 score while maintaining high precision.