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A Lossless Compression Method for Event Cameras via Removing Spatial Redundancy	1962
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Airport video aircraft tracking and data fusion method at remote tower 1967

Kai Wang, Yong Gao, Mozhen Tang, Pan Zhu, Tong Chen, Kang Xue

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Knowledge Distillation Based Lightweight Deep Neural Network for Automatic Modulation Classification ... 1972

Jinxin Yang, Shuo Chang, Shun Xu, Lujia Zhou, Sai Huang, Zhiyong Feng

TSSR: A Truncated and Signed Square Root Activation Function for Neural Networks 1978

Yuanhao Gong, Zewei Lin, Junlong Sun

Scalable Transmission of Convolutional Neural Network Weights in the Frequency Domain 1983

Fangzhou Li, Naijie Xu, Xiaohui Chen

A Hybrid CNN-GRU model for Session-based Recommender Systems 1988

Abebe Tamrat Tegene, Qiao Liu, Yanglei Gan, Elias Jimale, Melak Ayenew, Habte Leka

MP-MIENN: predicting multifunctional peptides by neural network with multiangle initialization embedding 1993

Jing Xu, Xiaoli Ruan, Jing Yang, Sina Xia, Shaobo Li

Microservice Partitioning for Cloud Computing via Constrained Graph Neural Network Clustering 1999

Jingyuan Liu, Yinglei Teng, Teng Zhong

New Impulsive SMC for Master-Slave Neural Networks with Stochastic and Unknown Input Disturbances .. 2004

Na Hu, Jinxiong Chen, Zhenkun Huang

Estimation Method of Ship Propeller Parameters Based on Deep Convolutional Neural Network 2009

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Can Image Quality Metrics Detect Face Liveness? 2014

Xinwei Liu, Wen Liu, Xinda Yu, Xiang Yan, Yiqi Jin, Yingru Chu, Xiaoxia Wang, Nian Liu

Gesture Recognition Model Based on YOLOv8-AW 2019

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