

Title: MHS-DETR: A Railway Frog Defect Detection Model Integrating Multi-Scale Edge Perception and Adaptive Structural Optimization

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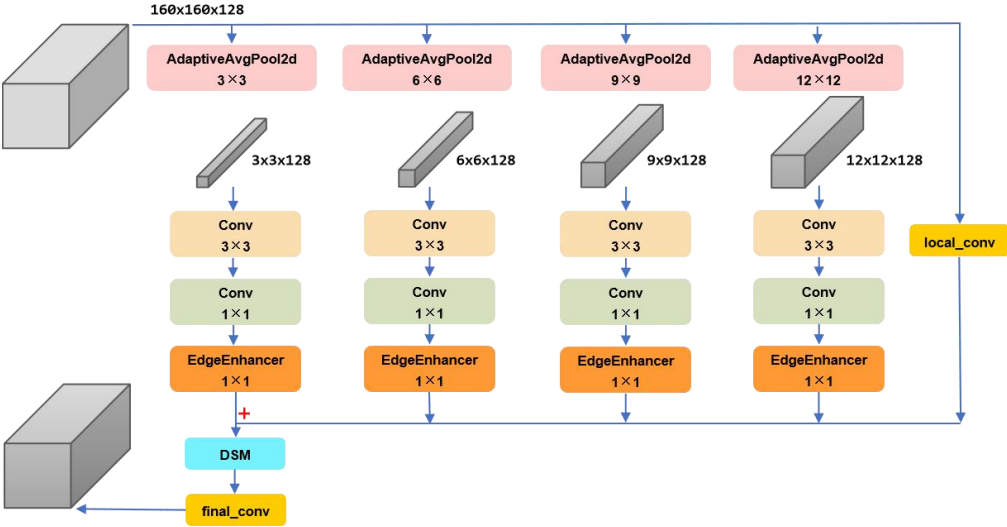


Fig. 8 Multi-scale Edge Information Extraction module

Table 1. Image Distribution Statistics under Different Environmental Conditions

Environments	Original	Shadow	Snowy	Nighttime	Strong Light
Number of Images	1233	237	237	191	191