

Vision-Based Autonomous Inspection Of Reinforced Concrete Buildings Leveraging Rgb-D Fusion

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This study incorporates depth fusion into deep learning-based semantic segmentation of damage in reinforced concrete buildings. Three different damage categories are considered: spalling, spalling with exposed rebars, and severely buckled rebars. A number of encoding techniques are explored for representing the depth data in an efficient manner. Additionally, various schemes for RGB and depth data fusion are investigated to identify the best fusion strategy. Overall, it was observed that the fusion of depth information could significantly enhance the performance of deep learning-based damage segmentation algorithms.