Traffic Sign Detection under Foggy Conditions using Machine Learning

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Abstract: *Traffic sign detection is crucial for enhancing road safety, especially under adverse weather conditions like fog. This paper explores the challenges of detecting traffic signs in fog and presents an approach that incorporates dehazing techniques to improve detection accuracy. We implement a combination of YOLO (You Only Look Once) and HOG (Histogram of Oriented Gradients) algorithms, evaluating their performance on various datasets. Our findings indicate a significant improvement in detection rates under foggy conditions, suggesting that integrating dehazing techniques can enhance visibility and road safety.*

Keywords: Traffic Sign Detection, Fog, Dehazing, YOLO, Image Processing