Efficient Passenger Counting in Public Transport Based on Machine Learning

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Abstract : Public transportation is a crucial aspect of passenger transportation, with buses playing a vital role in the transportation service. Passenger counting is an essential tool for organizing and managing transportation services. However, manual counting is a tedious and time-consuming task, which is why computer vision algorithms are being utilized to make the process more efficient. In this study, different object detection algorithms combined with passenger tracking are investigated to compare passenger counting performance. The system employs the EfficientDet algorithm, which has demonstrated superior performance in terms of speed and accuracy. Our results show that the proposed system can accurately count passengers in varying conditions with an accuracy of 94%.