Literature Review

Arani [1] conducted "A Comprehensive Study of Real-Time Object Detection Networks Across Multiple Domains: A Survey," an extensive evaluation of real-time object detection networks, including anchor-based, keypoint-based, and transformer-based models. Their study assessed these detectors across various datasets and metrics, emphasizing aspects such as versatility, robustness, resource efficiency, and energy consumption. The research also explored the impact of variables like image size, anchor dimensions, and confidence thresholds on performance. Additionally, the authors analyzed the robustness of detection networks against distribution shifts, natural corruptions, and adversarial attacks, providing valuable insights for deploying these models in real-world applications.

Zaidi [2] presented "A Survey of Modern Deep Learning Based Object Detection Models" , a comprehensive survey of contemporary deep learning-based object detectors. The paper provided an overview of benchmark datasets, evaluation metrics, and prominent backbone architectures used in recognition tasks. It also covered lightweight classification models suitable for edge devices and compared the performances of various architectures across multiple metrics, offering a holistic view of the advancements in object detection models.

Reza Movahedi [3] proposed "Object Detection Using YOLO: Challenges, Architectural Successors, Datasets, and Applications," Multimedia Tools and Applications, in 2022 that explored the You Only Look Once (YOLO) family of object detectors, discussing the challenges faced, architectural advancements, relevant datasets, and diverse applications. The authors analyzed the evolution of YOLO architectures, addressing issues such as accuracy, speed, and computational efficiency. The paper also highlighted the applicability of YOLO models in various domains, including autonomous driving and surveillance systems.

Nguyen [4] "Open World Object Detection: A Survey" , examined the challenges and methodologies associated with open-world object detection. The study addressed techniques enabling models to detect and learn new object categories without explicit retraining, a crucial capability for applications requiring adaptability to dynamic environments. The authors reviewed techniques related to few-shot and zero-shot learning, emphasizing their importance in the field.

Zhang [5] "Object Detection in Traffic Videos: A Survey" , that focused on object detection within the context of traffic surveillance. The authors reviewed various models and techniques tailored for detecting objects in traffic videos, discussing their performance, challenges, and potential improvements. The survey provided insights into the application of object detection models in intelligent transportation systems, emphasizing the importance of accuracy and real-time processing.