



# **PROJECT REPORT**

## **ANALYZING THE DISCIPLINE OF PART-TIME WORKERS USING OBJECT DETECTION**

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## ABSTRACT (ABSTRACT TITLE)

*The issue of management of part time worker in this case the worker is discussed in this paper in a situation due to lack of constant presence of a certain number of available workers, record keeping and verification of hours worked becomes a challenge thus affecting customers and processes of the organization. It suggests the use of YOLO object detection and with fuzzy logic to monitor attendance and productivity. While YOLO is responsible for accurate identification of the face and the uniform, fuzzy logic makes it possible to create the rules more flexible which makes it suitable for tracking part-timer. This research builds and tests a detection model combining YOLOv8 and fuzzy logic, using images and videos of employees in different job roles as dataset. To prevent overfitting, the data also underwent pre-processing and augmentation and was separated for training, validation and testing purposes as well. Overall, the evaluation criteria adopted include mAP, precision F1-score, etc. which measure the performance of the model. In addition, the paper gives instant insights on the defuzzification process on the model concepts too the implementers managers to aid them in decision making while managing costs. This research assesses the usefulness of both the YOLO and fuzzy logic in the tracking of the employee performance while forecasting on the operational efficiency and the long-term outlook of the organization..*

**Keyword:** *Parking Detection, YOLO, Object Detection, Fuzzy Logic, Part-Time Worker, Employee Performance*