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6th International Conference on Data Engineering and Communication Technology (ICDECT-2025) : Submission (256) has been created.

1 message

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Mon, Oct 13, 2025 at 12:28 PM

Hello,

The following submission has been created.

Track Name: ICDECT2025

Paper ID: 256

Paper Title: YOLOv8-Enhanced Deep Learning Model for Predicting Body Mass Index from Facial Images

Abstract:

Obesity is a growing global health issue, with Body Mass Index (BMI) a key indicator for assessing health and disease risk. Traditional BMI measurement uses manual methods, but recent advances in computer vision enable non-invasive BMI estimation from facial images. This study presents a deep learning framework with YOLOv8 for quick, accurate BMI prediction. Using a dataset of facial images with BMI values, we applied balancing and augmentation to address class imbalance. Multiple YOLO versions were trained and evaluated with metrics like Precision, Recall, F1-score, mAP, MAE, and RMSE. Results show that medium and large YOLOv8 models (YOLOv8s, YOLOv8m, YOLOv8l) perform best, with high precision and top mAP scores, while smaller models have limited predictive ability. These findings demonstrate YOLOv8's robustness and efficiency over traditional CNNs and other deep learning methods. Challenges include dataset diversity and interpretability, requiring Explainable AI (XAI) techniques and broader data collection. Ultimately, YOLOv8-based BMI prediction offers a promising foundation for mobile health, telemedicine, and preventive care, enabling scalable, personalized health monitoring.

Created on: Mon, 13 Oct 2025 05:28:52 GMT

Last Modified: Mon, 13 Oct 2025 05:28:52 GMT

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Secondary Subject Areas: Not Entered

Submission Files:

[ICDECT_2025_12_PID_256@icdect.com](#) (006) - Draft for Submission [2025-10-13] - no author.pdf (580 Kb, Mon, 13 Oct 2025 05:28:16 GMT)

Submission Questions Response: Not Entered

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