

ABSTRAK

**SISTEM PENDETEKSI PELANGGARAN ETIKA MAHASISWA
DI RUANG KELAS MENGGUNAKAN *YOU ONLY LOOK ONCE* (YOLO)
(2025: xiii + 58 Halaman + 30 Gambar + 4 Tabel + Daftar Pustaka + Lampiran)**

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JURUSAN TEKNIK ELEKTRO

PROGRAM STUDI SARJANA TERAPAN TEKNIK ELEKTRO

POLITEKNIK NEGERI SRIWIJAYA

Perilaku makan dan minum oleh mahasiswa di ruang kelas merupakan pelanggaran etika ketika menggunakan dan memakai ruangan kelas, peraturan ini tertulis dalam tata tertib aturan yang dapat mengganggu kenyamanan, kebersihan, serta konsentrasi dalam proses belajar mengajar. Seiring perkembangan teknologi, khususnya pada bidang *Machine Learning* deteksi perilaku semacam ini kini dapat diotomatisasi. Penelitian ini bertujuan untuk merancang dan mengimplementasikan sistem pendeteksi pelanggaran etika mahasiswa, khususnya aktivitas makan dan minum, menggunakan algoritma deteksi objek *You Only Look Once* (YOLO), khususnya versi YOLOv8. Tahapan penelitian meliputi pengumpulan dataset berupa gambar dan video yang menggambarkan kondisi normal dan pelanggaran, anotasi data menggunakan Roboflow, serta pelatihan model menggunakan platform Google Colaboratory. Setelah pelatihan selesai, model diimplementasikan ke dalam perangkat *Raspberry Pi* untuk digunakan secara langsung dalam lingkungan kelas. Hasil pengujian menunjukkan bahwa sistem mampu mengenali perilaku normal dan pelanggaran (makan dan minum) dengan cukup akurat yaitu dengan akurasi keseluruhan mencapai 96,4%. Sistem juga mampu memberikan *output* berupa suara peringatan melalui speaker ketika pelanggaran terdeteksi.

Kata Kunci: YOLOv8, *Raspberry Pi*, Pelanggaran Mahasiswa, *Computer Vision*

ABSTRACT

***STUDENT ETHICS VIOLATION DETECTION SYSTEM IN CLASSROOMS USING
YOU ONLY LOOK ONCE (YOLO)***

(2025: xiii + 58 Pages + 30 Figures + 4 Tables + References + Appendices)

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Eating and drinking behavior by students in the classroom is considered an ethical violation according to the rules and regulations governing classroom usage. Such behavior can disrupt comfort, cleanliness, and concentration during the learning process. With the advancement of technology, particularly in the field of Machine Learning, detecting this type of behavior can now be automated. This research aims to design and implement a system to detect ethical violations by students—specifically eating and drinking activities—using the You Only Look Once (YOLO) object detection algorithm, particularly YOLOv8. The research stages included collecting a dataset of images and videos representing both normal and violation conditions, annotating the data using Roboflow, and training the model on the Google Colaboratory platform. Once the training process was complete, the model was implemented on a Raspberry Pi device to be used directly in the classroom environment. The testing results indicate that the system is capable of accurately identifying both normal and violation behaviors (eating and drinking), achieving an overall accuracy of 96.4%. Additionally, the system is able to produce an audio warning output via a speaker when a violation is detected.

Keywords: YOLOv8, Raspberry Pi, Student Violations, Computer Vision.