IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 1, July 2024

Intelligent Traffic Signal Management with PLC

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Abstract: *This study introduces a Smart Traffic Light Control System (STLCS) that uses advanced technologies to improve traffic regulation. The key components include a camera-based traffic density detection module and a specialized vehicle identification system using Radio Frequency (RF) technology. The system's core is an Arduino Uno board along with several converters and a Programmable Logic Controller (PLC). Field tests show that STLCS effectively analyses traffic density and prioritizes emergency vehicles, proving its potential for global traffic management improvements.*

Keywords: Arduino Uno, Programmable Logic Controller (PLC), Traffic Density Detection, Smart Traffic Control System

DOI: 10.48175/IJARSCT-19131