Implementing Smart Control of Traffic Light System using Artificial Intelligence

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Abstract*: The rise in population and automobiles in cities has made traffic congestion a pressing concern that causes stress and delays for vehicles while also increasing energy consumption and pollution. Megacities are especially affected by this issue, necessitating real-time traffic density calculations for efficient traffic management and signal control. The traffic controller plays a critical role in affecting traffic flow. Therefore, there is a need to improve traffic management to meet the increasing demand. Our proposed solution involves the use of artificial intelligence and image processing to detect traffic density in real-time via traffic junction cameras. The system will also feature an algorithm that adjusts traffic signals based on vehicle density to reduce congestion, improve travel times for commuters, and lower emissions.*

Keywords: Traffic, congestion and traffic density

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