

UNIVERSITI TEKNOLOGI MARA

**IoT-Based Smart Energy-Saving
Streetlights**

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STUDENT DECLARATION

I certify that this thesis and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

The conventional street-lighting system in Malaysia promotes high energy consumption. This caused expensive electricity and maintenance bills. One of the approaches to solve this problem is by developing and implementing the IoT-Based Smart Energy Saving Streetlights (SESS). The SESS has two main features, automation in switching on and off and dimming to 40%. These features are enabled through the implementation of LDR and IR sensors which are connected to the LEDs. These components are controlled by a microcontroller, NodeMCU. It has been found that the SESS can reduce up to 79% of the power bills of streetlights. This reduction will be very beneficial to society in general. SESS is beneficial to the government which it allows them to reduce the operating and maintenance costs of streetlights. Meanwhile, the researchers can use the approach to address the similar issues in future works.

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