



**FACULTY OF ENGINEERING
INFORMATION AND TECHNOLOGY**

SCHOOL OF ENGINEERING

FINAL REPORT

SOLAR POWERED ELECTRIC BICYCLE

STUDENT NAME : INTHIRAN @ NAHRENTHIRAN S/O RAMASAMY

STUDENT ID : 1000309859

MAJOR : ELECTRICAL AND ELECTRONICS ENGINEERING

FIRST SUPERVISOR NAME : PUAN RUZITA BINTI ABU BAKAR

SECOND SUPERVISOR NAME : MR. LOH BOON TAT

PROJECT COORDINATOR : DR. KHEDR M.M. ABOHASSAN

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Abstract

This project focuses on the “**Solar Power Electric Bicycle**”. This project is done as a part of the curriculum of 3rd year engineering delivered at UCSI collaborating with University of Northumbria at Newcastle. The project’s aim is to investigate and research on alternatives solutions for small vehicles using a low cost drive system with small motor and electronic devices. Vehicles powered by solar energy and other renewable energy resources are possible alternatives to the conventional vehicles powered by fossil fuels. In this project, the solar powered bicycle uses solar energy to charge a battery and hence powers the motor. An array of solar photovoltaic (PV) cells that converts sunlight into electricity is used. The electricity goes directly to a special storage battery. The PV array can be integrated onto the vehicle body itself or a separate stand alone unit to charge an electric vehicle (EV) battery when it is parked. In this report, a detailed specification on designing a full-scale type is included. Crucial readings, experimental works, simulations and problems faced also produced inside the final report.