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TEKNOLOGI
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2024



International Industrial Revolution 4.0 Exposition

"INNOVATING IDEAS, TRANSPIRING DREAMS"

ABSTRACT BOOK

Strategic Partners:



Perpustakaan
Sultan Badlishah

Organized By:

**COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS,
UNIVERSITI TEKNOLOGI MARA, KEDAH BRANCH**

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UITM Cawangan Kedah Channel

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IREx 2024

The successful inauguration of IR4.0 Exposition IREx 2019 has witnessed ground breaking initiatives, ideas, and innovations materialised into numerous practical devices today. Treading on the same triumph, the College of Computing, Informatics, and Mathematics, UiTM Kedah is thrilled to announce the continuation of said event, IREx 2024 with the theme: *Innovating Ideas, Transpiring Dreams*.

The IREx 2024 aspires to incorporate even more exciting new technologies including, but not limited to, Information & Communication Technology (ICT), Educational Technology & Innovation (ED), Operational Excellence (OE), Internet of Things (IoT), Process Improvement, Ideas & Design, Multimedia, and Electronics that will chart new milestones in human history. This will serve as an excellent platform for scientists and innovators alike to meet the like-minded individuals and showcase inspiring ideas and notable innovations.

PROGRAM SCHEDULE

International Industrial Revolution 4.0 Exposition (IREx 2024)
21ST May 2024 (Tuesday)
Dewan Perdana, UiTM Kedah Branch

TIME	EVENT
8.00 – 9.00 am	Registration & Booth Set Up
9.00 am – 12.00 pm	Exhibition & Judging Session
12.00 pm – 2.00 pm	Obedient Drone Session & Break
2.00 pm – 5.00 pm	Official Closing & Prize Giving Ceremony
5.00 pm	Program Ends

Official Closing Ceremony

International Industrial Revolution 4.0 Exposition (IREx 2024)

TIME	EVENT
2.00 pm	Arrival of Guests and Participants
2.30 pm	Arrival of VVIP
	National anthem - Negaraku And Wawasan Setia Warga
2.40 pm	UiTM
	Welcoming Speech
3.00 pm	Rector's Welcoming Speech
	Officiating Speech
3.10 pm	Gimmick & Montage presentation
3.30 pm	Prize Giving Ceremony
4.00 pm	Photography
5.00 pm	Program Ends

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CATEGORY B

REVOLUTIONIZING SCHOOL ENERGY MANAGEMENT WITH AI-POWERED LIGHTING SOLUTIONS

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ABSTRACT - In our rapidly urbanizing world, schools face escalating electricity costs driven by urban growth and taxation. This study introduces a pioneering AI-driven lighting system using smart motion detection to optimize energy use in educational settings. By integrating advanced computer vision and AI, this system detects human movement within school premises, ensuring lights operate only when necessary. This approach can drastically reduce energy waste, with potential reductions in consumption compared to traditional, manually operated systems. The impact of this smart lighting solution extends beyond cost savings, serving as a model for sustainable energy management in public spaces. The technology is designed to be scalable and cost-effective, allowing schools of all sizes to implement the system without financial strain. Such advancements not only contribute to environmental sustainability but also allow schools to allocate saved funds towards educational enhancements. With significant market potential, this AI-based solution could redefine energy management in educational and other public institutions, offering substantial operational cost reductions and environmental benefits. Its adoption marks a critical step toward more sustainable and economically viable energy practices in public settings, emphasizing AI's role in fostering more sustainable communities.

Keywords: Artificial Intelligent-driven lighting, computer vision, motion detection, energy management, sustainable schools.



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