



PETRONAS

17 November 2023

Group 3

TECHNOLOGIES DISCUSSED

CLOUD COMPUTING

Cloud computing is the use of computing power that is located elsewhere, in 'the cloud' of remote networks. Petronas used cloud-based applications to improve decision-making by collaborating with Industrial Software Solution Provider AVEVA. A common problem faced by them is that decisions made by several departments are complexed which will lead to expensive disruptions in workflows and the leakage of value. With the solution provided from AVEVA, Petronas has combined critical information to enhance productivity and streamline business decisions. Cloud computing plays an important role in facilitating the easy management. Besides, cloud providers deliver complementary data analytics services which enable Petronas to make use of the data collected from their applications.



DRONES INSPECTION

Petronas has implemented drones for various use cases such as Inter-platform cargo delivery, safety & security surveillance, asset condition monitoring, painting/blasting and ultrasonic thickness measurements. The drones equipped with a range of features including 3D Digital Twin Reporting to allow greater integrated operations, LIDAR for assisting autonomous navigation and providing 3D scanning of assets, which provide comprehensive inspections for hard-to-reach areas. As a result, this ability allows Petronas to enhance the situation awareness of their platforms and approach to data quickly for troubleshooting.



SUMMARY

PETRONAS is a significant participant in the oil sector. Their progress in digital transformation for sustainability and efficiency is amazing. The sharing session focused on how they use cloud solutions for better decision-making. Other than that, drones are also one of the latest developments being investigated by PETRONAS. It was fascinating to learn about their focus on staff upskilling. PETRONAS has proven a strong commitment to standing at the forefront of technology innovations by achieving significant savings and efficiency benefits.

REFLECTION

By taking part in an industrial talk to PETRONAS, which was organized by the UTM Faculty of Computing for first-year data engineering students, we can show our appreciation for this incredible chance to broaden our perspectives and discover new things particularly in terms of broadening our understanding of the ICT sector and exposing us to the latest innovations that are not often covered in the classroom such as PETRONAS Cloud solution and Drones. We learned that how innovation helps human life by boosting productivity, making important data accessible more rapidly, and contributing to more secure and effective procedures across a range of sectors. Ultimately, the most important lesson we learned from our industrial visit is how motivating it was for our future careers and how it helped us match our goals with the fascinating opportunities in the ICT industry.



HUAWEI

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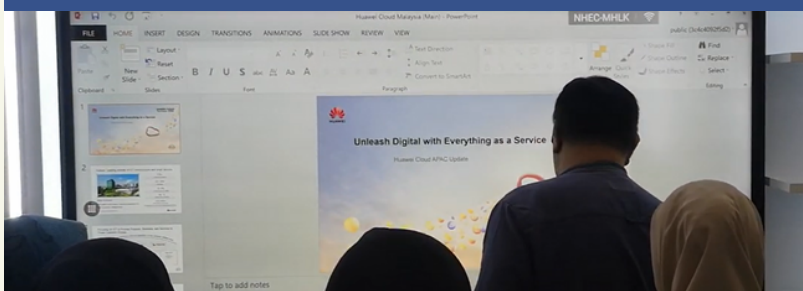
COMPUTER VISION USING MACHINE LEARNING

The technology in computer vision has automated various tasks. During our visit, Huawei showcased a product that can automatically calculate the price of the groceries. The computer recognises the items placed on the weighing scale and computes the price automatically. Another amazing application is that the convenient store will automatically charge the users whenever they take a product from the shelf. Furthermore, the technology is also implemented in factories such as good and bad chillies segregation. These applications can significantly reduce human errors and replace repetitive tasks with automation.



HUAWEI IDEA HUB BOARD

Nowadays, many schools or universities are improving their teaching equipment by using smart boards. Through this visit, we know that the Huawei IdeaHub Board features dual Wi-Fi and a stable anti-interference design, and allows for reverse control allowing users to turn pages and annotation for truly flexible interaction. Its openness and compatibility allow the educator to focus their lecture and can also attract students in class. It offers a unique handwriting tracing algorithm that offers 25 ms ultra-low latency, with teacher and student co-authoring possible. It has multiple projection methods available, including HDMI/Type-C cable, IdeaShare App2, IdeaShare Key and a drop-down menu on the mobile device, to connect to different endpoints. It consists of two operating systems which are AndroidOS and Windows to enhance compatibility with a full range of different teaching apps.



SUMMARY

Huawei is a provider of ICT infrastructure and smart devices. During this visit on, they presented many of their products that utilised the state-of-the-art technology that have broaden our horizon.

REFLECTION

We are very grateful for this opportunity, which gave us a different understanding of this field. Through this visit, we learned more about different knowledge of the ICT industry instead of the rigid knowledge in the classroom. For example, Huawei's electric vehicle chargers, wireless LAN, etc. We know how electric vehicle charging works, how electricity can reduce air pollution, and how Huawei's wireless LAN works, allowing terminal signals to be fully covered even when moving so that you can enjoy wireless networks anytime and anywhere. In addition, Huawei has also launched a computer vision solution using machine learning. This solution allows retailers to cost-effectively improve customer satisfaction and operational efficiency. This solution is also well used in manufacturing, such as distinguishing the quality of peppers, which can reduce human errors. Factories can also use this application to replace employees to reduce worker expenses and produce a large amount of high-quality goods in a short period. Besides, we also learned how the Huawei IdeaHub board works. It features dual Wi-Fi and a stable anti-interference design and allows for reverse control allowing users to turn pages and annotation for truly flexible interaction. Its openness and compatibility allow the educator to focus their lecture and can also attract students in class. It is very useful for both the lecturer and the student. This industrial visit gave us a different perspective and the valuable knowledge we learned was very helpful. It inspires us on how to achieve future goals and helps us gain more experience in the field.