VISIT TO PETRONAS

Petronas is **Malaysia's national oil and gas company**, delivering energy solutions responsibly and sustainably. PETRONAS manages Malaysia's hydrocarbon resources and provide energy products globally, as well as cleaner solutions. With a commitment to **achieving net zero carbon emissions** by 2050, they support the **transition to a lower-carbon future**.

Exploring the World of Software Engineering

At **11:20 AM** on **17 January 2025**, the head of Software Engineering, Mr. Roman Kvaska from Petronas Digital Sdn. Bhd. delivered an insightful talk titled ***"Who, Why, What, How? Software Engineering"*** to 31 students specialising in Data Engineering led by Dr. Aryati from Universiti Teknologi Malaysia (UTM) in Bustle Area, Level 37, Tower 2, **Petronas Twin Towers**.

The session provided a comprehensive **overview of software engineering**, a dynamic field encompassing the design, development, implementation and maintenance of software solutions that serve as vital business assets. Mr. Roman also shared about the **skills required in Computer Science**.

Skills Required for Software Engineering

Mr. Roman emphasized that excelling in software engineering requires a **blend of technical and soft skills**. These include analytical thinking, problem-solving, programming expertise, productivity skills which is to complete tasks efficiently and a deep understanding of the **Software Development Life Cycle (SDLC)**. The importance of lifelong learning was also stressed as the industry evolves rapidly.

The SDLC is a structured process for **planning, creating, testing and deploying** software. It begins with gathering requirements, followed by **UI/UX design**. While UI designers focus on visual elements such as colors, fonts and layout, UX engineers ensure smooth user interactions and experiences. After addressing all questions and requirements, implementation begins, followed by rigorous quality assurance and deployment, ensuring the software operates seamlessly.

Conclusion and Reflections

Angela Ngu Xin Yi
A24CS0226

"This visit was truly beneficial as bridged the gap between theory and practice. Mr. Roman Kvaska emphasized the importance of understanding object-oriented programming, SDLC and cloud technologies, explaining how the knowledge gained in class translates into the professional world. The visit also sparked excitement and interest in exploring real-world applications, particularly face recognition technologies. In summary, this talk significantly enhanced the learning experience by connecting academic concepts with industry applications and inspired me to strive for well-rounded skills such as mastering both front end and back end development for full-stack roles."

Michelle Ho Chia Xin
A24CS0110

"The industry visit was a great reminder that excelling as a data engineer goes beyond technical skills; it's about adaptability, continuous learning, and understanding how technology drives business and societal progress. Roman Kvaska's insights highlighted the importance of developing a wide range of skills, combining solid technical knowledge with a mindset ready to adapt to new advancements. This industry visit definitely provided encouragement to stay curious and take an active approach to keep up with the fast-changing tech world."

Arina Sofiah Binti Hamede
A24CS0227

"Through the industry visit to Petronas, it was definitely deemed beneficial to the students especially the way Mr. Roman Kvaska the talker of the day emphasizes on the importance of most of the topic that students learn in this course such as the SDLC and cloud. The way he contributed to the talk by sharing his own working experiences ensures that the students became more engaging to the talk itself. Thus, by visiting the organisation and inviting an experienced talker proves on better understanding for the students."

Mikael Haqimi Bin Nahar Junaidi *A24CS0111*

"From the experiences shared, Roman Kvaska's session provided many valuable insights that resonate with me. Key skills such as problem-solving, programming, and understanding the SDLC were emphasized, along with the importance of emerging tools like low-code platforms and generative AI. The discussion on innovative projects, such as face recognition technologies, reflected the field's potential and inspired me to embrace lifelong learning and explore advanced technologies for future success in software engineering."