

# **IET - Young Professionals Exhibition & Competition 2024**

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## *Greeting and Introduction*

Good afternoon, Dr MAK (Chairman of IET HK Branch), esteemed guests, ladies and gentlemen. It is my great honour to deliver a speech in the closing ceremony at the Young Professionals Exhibition and Competition held by The Institute of Engineering and Technology. I am delighted to discover a number of extraordinary project presentations at booths among our youth generations, showcasing the engineering and technology innovations.

2. With five days left before the kick-off of the Paris Olympic Games 2024, I am sure you are all excited to support your favourite teams, as well as our National and Hong Kong China athletes. I wonder if I could have a chance to see an AI humanoid competing with human in Olympics. Developed by Toyota Motor Corporation, an AI humanoid can now play basketball. The developed robot was even used to compare its skillset with experienced basketball players for stimulating and strengthening the training of top basketball players.

## *Latest Trends in AI Technology Among Youth's Life*

3. Nowadays, AI applications have merged into our daily lives, in the industry and among young generations. It changes our way of accomplishing daily tasks. Mobile emojis and photo generation, online AI travel planner, Chatbot Tutor, ChatGPT and AI calculator on the iPad. You should already have a go with one or more before.

## *EMSD Showcase in AI Motivation*

4. AI Technology also starts to revolutionize diversified facets of our working and learning patterns. My department EMSD has also explored AI for tackling the engineering problems. Every time, when you fly back to Hong Kong, I am sure that you have seen the gleaming airfield lights on a dark runway before the landing. Everyday, more than a thousand airplanes run on top of these embedded airfield lights and some of

the rubber from plane tyres will melt and obstruct the airfield lights. So, timely cleaning of these melt tyre rubber is critical to aviation safety. Even worse, inspecting and removing dirt from more than 12,000 airfield ground lights on runways is not an easy job.

5. Our engineers at EMSD have developed an autonomous driving, cleaning and inspection robot truck. This robot uses AI image recognition to inspect the cleanliness and alignment of the bolts on the lights. When an airfield light is detected with dirt obstructed, the robotic arms would precisely inject high-pressure dry ice to clean. AI robot truck can work round the clock and enhance the inspection quality and efficiency.

#### *Encourage Youngsters to Prepare the Best for the Great Era of AI Generation*

6. In the past, it was difficult to realize AI applications due to limited computation power. Nowadays, with new break-throughs in hardware, AI's calculation speed has immensely increased, attracting users towards mastering AI.

7. In addition, the open software community and enlightening policies in Hong Kong and Mainland have been instrumental in supporting the younger generation's software-driven innovation.

8. To embrace a new era of "AI generation", I encourage all of you to master the communication and collaboration skills with AI, aiming for "human-and-machine integration". In this context, the importance of prompt engineering simply cannot be overstated. Mastering the art of crafting effective prompts for AI models is the gateway to unlock their full potential and ensure the "impossible" outcomes. Could you tell that the video showing here is actually generated by AI? All we did was input my message here as the text prompt, and the AI software produced this amazing result, without any refinement nor modification. Just a few years ago, I would not have imagined that AI could create such a sophisticated video with just a few prompts and in a few of minutes.

9. By the end of this decade, we can foresee that AI may be able to take up 80% of the tedious, repetitive, and non-productive tasks, freeing up humans to focus on the more strategic, creative, and decision-making aspects of their lives. With fascinating benefits of AI application and a favourable environment, let's prepare our best for embracing Human-AI collaboration in the great era of "AI Generation". Thank you!