

THE CONTINUING PROFESSIONAL DEVELOPMENT CPD-002/2024

GENERATIVE AI FOR ENGINEERS EXPLORE GENERATIVE AI IN ENGINEERING!

The Institution of Engineers Sri Lanka Qatar Chapter (IESL-QC) proudly announces the successful completion of its second Continuing Professional Development (CPD-02-2024) session of 2024 titled "Generative AI for Engineers, Explore Generative AI IN Engineering!", held on July 5th, 2024. This event drew active participation from over 165 professionals around the globe eager to delve into the transformative world of Generative AI.

The session commenced at 16:00 hrs (Qatar Time) with a warm welcome address by the Chairman of the IESL Qatar Chapter, Eng. Mohamed Irfan Aboobacker, who highlighted the importance of Generative AI in the contemporary world.

Following the welcome address, the keynote speaker, Prof. Roshan G. Ragel, a distinguished expert in computer engineering from the University of Peradeniya, presented on "Generative AI for Engineers." Prof. Ragel is renowned for his extensive research in the Internet of Things, Wearable Computing, Bioinformatics, and AI/ML. As a Senior Member of the IEEE (Institute of Electrical and Electronics Engineers) and a top-ranked scientist in Sri Lanka, he brought a wealth of knowledge and experience to the session, providing a comprehensive overview of AI fundamentals, practical applications, and productivity hacks.

Prof. Ragel's session covered critical topics such as:

- ✓ **Introduction:** Why AI is a game-changer for engineers.
- ✓ **Generative AI Basics:** Simple explanations and cool examples.
- ✓ **Real-World Applications:** How AI is transforming engineering projects.
- ✓ **AI Tools Demo:** Hands-on guide to using AI tools.
- ✓ **Productivity Hacks:** Use AI to save time and make better decisions.
- ✓ **Ethical Insights:** Understand the ethical side of AI.
- ✓ **Q&A Time:** Your questions answered!

The interactive Q&A segment allowed participants to engage with Prof. Ragel, making the session highly dynamic and enriching.

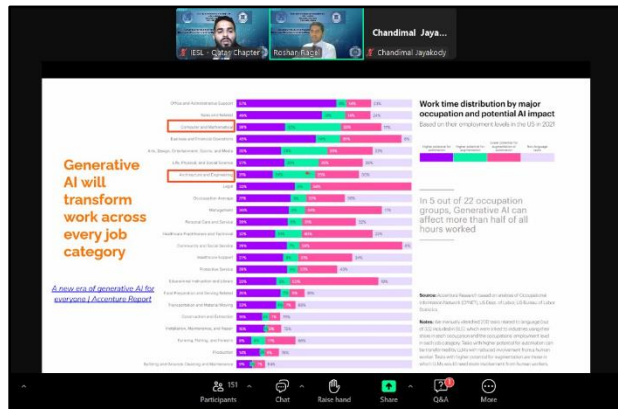
The session concluded with a heartfelt vote of thanks from Eng. Chandimal Jayakody, Chairman of the IESL Qatar Chapter, expressing gratitude to Prof. Ragel and appreciating the contributions of all participants.

At the end, the participants were asked to fill out a registration form, ensuring their active involvement and certification. The session received 100% positive feedback, highlighting its informative and invaluable nature.

The IESL Qatar Chapter remains committed to fostering professional growth and educational excellence within the engineering community.

The recorded session has uploaded in the chapter Facebook Page. Follow the attached link for the recording;
[IESLQC-CPD-02-2024 Recording](#)

Event Photographs and Session flyer



Enhancing Design and Simulation

MEET THE DESIGN ASSISTANT

AI-powered digital assistant in SolidWorks

Advanced Simulation Technologies

AI enhanced simulation technologies to build digital twins, enabling more accurate and faster predictions of how designs will perform in the real world. These virtual environments also help to generate synthetic data to train AI/ML algorithms.

AI in Computer-Aided Design (CAD)

Use AI-driven generative design to automate routine design tasks, analyze design choices, and optimize designs for performance, cost, and sustainability.

NI/ODI, BMW, Bosch, Virtual Reality to Demonstrate Factory

Data-Driven Decisions (Cont'd)

Data Cleaning
Identifying and rectifying errors, inconsistencies, and missing values in datasets.

Descriptive Statistics
Summarize and describe the main features of a dataset.

Predictive Modeling
Uncovers patterns and relationships in the data that can be used to forecast future events or behaviors.

Correlation Analysis
Correlation analysis identifies patterns of association or dependence between variables. It helps in understanding how changes in one variable may relate to changes in another.

Visualization
Represent data visually through charts, graphs, and plots. It helps in identifying trends, outliers, and patterns that may not be evident from raw data alone.

Data Privacy Concerns

Safeguarding confidentiality

- Avoid Sharing Sensitive Information:** Stick to general queries or use hypothetical scenarios to illustrate your points without revealing confidential details.
- Use Generic Examples:** When seeking assistance related to specific cases, use generic examples or fictional scenarios that do not disclose client identities or sensitive details.
- Anonymize Information:** If you need to discuss a real case for educational purposes, anonymize the information.
- Check Platform Security:** Use reputable and secure platforms for interacting with GenAI.
- Read Terms of Service:** Familiarize yourself with the terms of service and privacy policies of the GenAI platform. Ensure they have robust data protection measures in place.

THE INSTITUTION OF ENGINEERS, SRI LANKA QATAR CHAPTER. 2023/2024

Generative AI for Engineers

Explore Generative AI in Engineering!

Why Attend?

- Understand Generative AI: Learn the basics and how it works.
- Practical Tips: Discover how to use AI tools in your daily tasks.
- Boost Productivity: See how AI can make your work more efficient.

Presented By:

Prof. Roshan G. Ragel

Prof. Roshan G. Ragel is a distinguished computer engineering professor at the University of Peradeniya, Sri Lanka. He is renowned for his extensive research in the Internet of Things, Wearable Computing, Bioinformatics, and AI/ML. As a Senior Member of the IEEE and a top-ranked scientist in Sri Lanka, he brings a wealth of knowledge and experience. With this experience in AI and a knack for making complex topics easy to understand, he's your perfect guide to exploring AI in Engineering. Prof. Ragel has contributed significantly to the advancement of AI in education and is actively involved in National AI strategy formulation. His engaging teaching style and practical insights make his sessions invaluable for professionals looking to leverage AI in their fields.

Guest of Honor:

Eng. Ahmad Jassim Al Jolo
President, Federation of Global Engineers

Date: Friday, July 5, 2024

**Time: 4.00pm - 5.30pm (Qatar Time)
6.30pm - 8.00pm (Sri Lanka Time)**

Join on Zoom webinar
Webinar ID: 810 4445 8335
Passcode: 320392

Register Now

Certificate of participation provided.

Eng. Manoj: +974 7019 1927 | Eng. Muhammad: +974 3392 8695 | Eng. Irfan: +974 775 93624



Effective Prompt Generation: Getting the Best Out of GenAI Tools

- Context**
Tell the role, nature, context, and purpose of the task and the audience.
- Task**
Break down complex questions.
- Instructions**
- Clarify and Refine**

You are a knowledgeable engineering assistant specialized in <specific engineering field>. I am an engineer working on <specific project or task>. Help me understand <specific technical concept>. Start by introducing yourself as an AI assistant eager to assist with any engineering-related questions. Address one question/topic at a time. Help me understand the topic by providing detailed explanations, relevant examples, and practical analogies. Tailor your responses to the engineer's level of expertise and their prior knowledge or experience with the topic.

Do you understand?