

NEW HORIZON COLLEGE OF ENGINEERING

Department of Mechanical Engineering

WORKSHOP REPORT

Mechanical Engineering with Generative AI
“Prompt, Solve, Design and Build”

NEW HORIZON COLLEGE OF ENGINEERING
25 YEARS OF GLOBAL LEARNING

Workshop

Mechanical Engineering with Generative AI Prompt, Solve, Design and Build

01st October 2026
 09:30 AM – 12:30 PM
 DEMS Lab, Sardar Vallabhbhai Patel Block
 3rd Semester Students

Hands on Workshop

Faculty Coordinator
Dr. Shiva Prakash S

Convenor
Dr. D V Sreekanth
Professor and HoD - ME

Dr. R J Anandhi
Vice Principal - Academics

Dr. Manjunatha
Principal

Mr. Karthik A V
SME-Data Scientist
UNEXT

Organised by
Department of Mechanical Engineering

Date & Time	01 October 2026 09:30 AM – 12:30 PM
Venue	DEMS Lab, Sardar Vallabhbhai Patel Block
Participants	3rd Semester Mechanical Engineering
Resource Person	Mr. Karthik A V, SME – Data Scientist, UNEXT
Faculty Coordinator	Dr. Shiva Prakash S
Convener	Dr. D V Sreekanth, Professor and HoD – ME

The Department of Mechanical Engineering, New Horizon College of Engineering, organized a hands-on workshop on Generative AI for 3rd semester Mechanical Engineering students. The programme focused hands on use of AI for mechanical engineering prompting, problem solving, design ideation and build-oriented thinking.

1. Background and Objectives

Generative Artificial Intelligence is an important digital support tool in engineering education and industry. The workshop was planned to help students understand how AI can be used productively in mechanical engineering while emphasizing verification, engineering judgement and responsible use.

Objectives

- Introduce students to Generative AI and its relevance to Mechanical Engineering.
- Develop skills in writing clear and structured engineering prompts.
- Demonstrate AI-assisted approaches to engineering problem solving.
- Explore AI-supported design ideation and iterative improvement.
- Encourage students to convert AI-generated ideas into practical Mechanical engineering concepts.
- Create awareness of the need to verify AI-generated technical information.

2. Major Technical Themes

Prompt Engineering: Defining the task, context, constraints, assumptions and expected output.

Problem Solving: Using AI for brainstorming, decomposition and comparison of solution approaches.

Design: Generating and refining preliminary Mechanical engineering concepts against stated requirements.

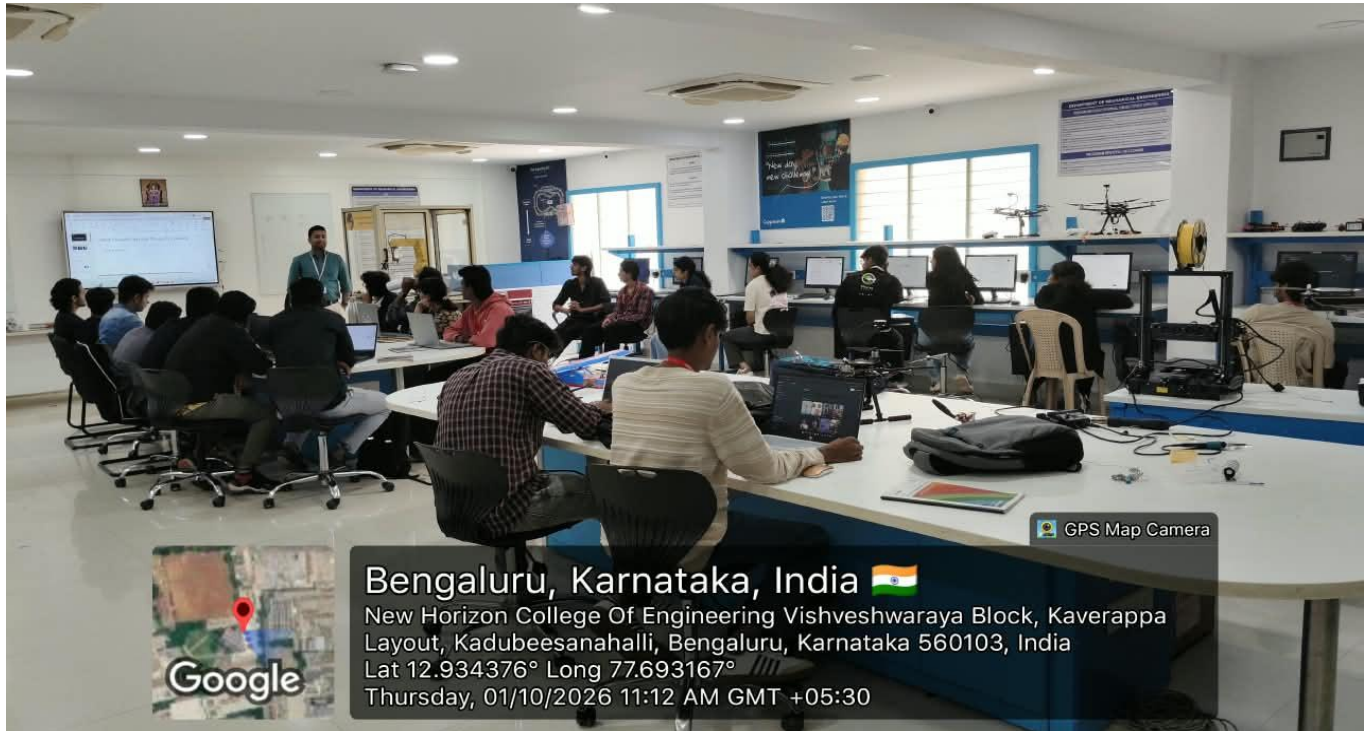
Build: Connecting digital ideas to practical engineering implementation and prototyping.

Verification: Checking AI output through theory, calculations, standards, software and engineering judgement.

3. Workshop Proceedings and Hands-on Learning

The workshop was conducted in the DEMS Lab in an interactive laboratory environment. The uploaded event photograph shows students working with laptops and digital resources while the session was in progress. The arrangement supported demonstrations, individual exploration and interaction.





Hands-on Activities

- Students experimented with prompts for Mechanical engineering-oriented tasks.
- Students learned to improve prompts by adding context, constraints, units and desired response formats.
- AI-assisted problem-solving workflows were explored through guided examples and discussion.
- Students considered how AI could support design ideation and iterative refinement.
- Participants discussed the transition from an AI-generated concept to a feasible engineering solution.
- The session highlighted the importance of independently checking technical outputs before application.

Student Engagement

The workshop format encouraged active participation by used their laptops during the session, interacted with the resource person and explored AI-supported workflows. The laboratory setting provided an appropriate environment for combining explanation, demonstration and hands-on exploration.

Institutional Support

The event was organized by the Department of Mechanical Engineering with coordination by Dr. Shiva Prakash S. The programme was convened by Dr. D V Sreekanth, Professor and HoD ME. Institutional support was provided by Dr. R J Anandhi, Vice Principal Academics and Dr. Manjunatha, Principal.

Benefits to Students

- Improved awareness of emerging AI-enabled engineering tools.
- Better understanding of prompt construction and iterative refinement.
- Exposure to AI-assisted engineering problem solving and design ideation.
- Improved digital confidence for academic projects and future industry applications.
- Awareness that engineering decisions require verification and professional judgement.

Relevance to Mechanical Engineering

Generative AI can support concept development, design documentation, technical communication, coding assistance, data interpretation, manufacturing planning and project work. Introducing these tools can strengthen digital fluency while keeping engineering fundamentals at the centre of decision-making.

Conclusion

The workshop “Mechanical Engineering with Generative AI – Prompt, Solve, Design and Build” provided 3rd semester Mechanical Engineering students with practical exposure to Generative AI in Mechanical engineering context. The hands-on helped connect prompt engineering with problem solving, design ideation and build-oriented thinking. The workshop also reinforced the need for verification, critical thinking and responsible use of AI. Overall, the workshop created a useful foundation for integrating emerging AI-enabled tools into future mechanical engineering learning and project activities.