# ICAIN-2025
# International Conference on Artificial Intelligence and Networking

## 06th-07th October 2025
## Organized by
## BITS Pilani, Dubai Campus
## In association with
## Indian Institute of Information Technology, Allahabad

## ************** CALL FOR PAPERS ***************

### SPECIAL SESSION ON

Advancing Natural Language Understanding with GenAI: Deep Learning Architectures for Contextual and Conversational Intelligence.

### SESSION ORGANIZERS:

Mr. Rajesh Sura, Anna University, Chennai, Tamil Nadu , surarajeshgoud@gmail.com

Dr. Deevyankar Agarwal, University of Technology & Applied Sciences(UTAS), Muscat, Oman

### EDITORIAL BOARD: (Optional)

[Name, University or Organization, Country, e-mail]

### SESSION DESCRIPTION:

This session delves into the forefront of Natural Language Understanding (NLU) powered by Generative AI (GenAI), highlighting how cutting-edge deep learning architectures are reshaping the way machines interpret and generate human language. As conversational agents, virtual assistants, and AI copilots become increasingly integrated into real-world applications, the need for contextual awareness, semantic depth, and adaptive dialogue capabilities has never been more critical. Participants will explore advanced transformer-based models (such as GPT, BERT, T5, and their successors), fine-tuning techniques, and emerging trends in multi-modal and multilingual NLU. The session also covers practical implementations in areas like healthcare, education, customer support, and enterprise automation. Through case studies and architectural insights, attendees will gain a deeper understanding of how GenAI models achieve contextual comprehension and conversational fluidity at scale.

Ideal for AI researchers, developers, data scientists, and tech leaders, this session offers a compelling blend of theory and practice—enabling attendees to design, evaluate, and deploy intelligent

**conversational systems that push the boundaries of human-AI interaction**

## RECOMMENDED TOPICS:

Topics to be discussed in this special session include (but are not limited to) the following:

- **Transformer-based Architectures for NLU (e.g., BERT, GPT, T5, LLaMA)**

- **Context-Aware Dialogue Systems and Conversational AI**

- **Prompt Engineering and Fine-Tuning Strategies for GenAI Models**

- **Multi-modal and Cross-lingual Language Understanding**

- **Ethical and Responsible Use of GenAI in Conversational Systems**

- **Real-time Language Generation and Summarization Techniques**

- **Knowledge Integration and Retrieval-Augmented Generation (RAG)**

- **Applications of NLU in Industry (e.g., Healthcare, Legal, Education, Customer Service)**

- **Evaluation Metrics and Benchmarking for GenAI-based NLU Models**

- **Low-resource and Zero-shot Learning in Language Models**

## SUBMISSION PROCEDURE:

Researchers and practitioners are invited to submit papers for this particular theme session on [**Advancing Natural Language Understanding with GenAI: Deep Learning Architectures for Contextual and Conversational Intelligence**] *on or before* [30th August 2025]. All submissions must be original and may not be under review by another publication. INTERESTED AUTHORS SHOULD CONSULT THE CONFERENCE'S GUIDELINES FOR MANUSCRIPT SUBMISSIONS at https://www.icain-conf.com/downloads. All submitted papers will be reviewed on a double-blind, peer-review basis.

NOTE: While submitting a paper in this special session, please specify [Session Name] at the top (above paper title) of the first page of your paper.

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