



IIMK RESEARCH SEMINAR

Research Office invites you to attend a research seminar on

"Towards Sustainable AI: The Role of Small and Open-Source Language Models"



Prof. Raghava Rao Mukkamala

Professor of Data Science and Cybersecurity
Department of Digitalization,
Copenhagen Business School, Denmark.

Date: July 07, 2026

Time: 03:00 PM - 04:00 PM

Venue: PGP Classroom B4

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SEMINAR 2026-27**

Brief Bio

Raghava Mukkamala is a full professor of Data Science and Cybersecurity at the Department of Digitalization, Copenhagen Business School, Denmark. His research primarily focused on Data science, Blockchain Technologies, and Cybersecurity. His current research focuses on developing novel computational methods to analyze social discourse, misinformation, and hate speech by combining formal/mathematical modeling with advanced deep learning and generative AI algorithms. As part of a pro bono research collaboration with the United Nations High Commissioner for Refugees (UNHCR), he works on domain adaptation and fine-tuning of large language models to identify hate speech and bias against refugees. Even though most of his research is published in IEEE and ACM journals, he has also published several papers in FT- 50/AJG-4*/ABDC-A* journals, such as the Journal of the Association for Information Systems (JAIS) and the Journal of Management Information Systems (JMIS).

He teaches several courses in programming, machine learning, and blockchain technologies. Raghava holds a Ph.D. in Theoretical Computer Science and an M.Sc. in Information Technology from IT University of Copenhagen, Denmark. Before moving into research, Raghava had many years of programming and IT development experience in Denmark's IT industry.

Abstract of the Paper

The rapid growth of Generative AI and Large Language Models (LLMs) has transformed education and research, yet their computational demands, limited transparency, and reliance on proprietary infrastructure raise concerns about accessibility, governance, and sustainability. This talk examines how open-source and small language models (SLMs) can provide more transparent, resource- and energy-efficient, and sustainable alternatives to large commercial AI systems.

Drawing on our research and teaching activities at Copenhagen Business School, the talk discusses how SLMs could be used for education and research. Four applications: the use of fine-tuned and domain-adapted SLMs in education; language-based approaches to econometrics and time-series forecasting; a Retrieval-Augmented Generation prototype for refugee support in ICTD contexts; and knowledge distillation approach for social good, focusing on misinformation about refugees using lightweight models trained on synthetic data. Overall, the talk argues that small and open-source models are essential for developing accessible, responsible, sustainable, and impactful AI.

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