



INSTITUTE COLLOQUIUM



Title : A Look at Foundations and Frontiers of Natural Language Processing

Abstract: Natural Language Processing (NLP) has become relevant and impactful like never before and Large Language Models (LLMs) have taken the world by storm. The harbinger of this new order is positively the huge progress in data, machine learning, systems, and hardware. In this presentation, we discuss some of the foundations and frontiers of NLP, leading to the arrival of LLMs. We then move to a few cutting-edge applications of (L)LMs like in avionics, machine translation, and healthcare where we have our own research. We end with future directions with respect to challenges and solutions.

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He has done extensive research in Natural Language Processing and Machine Learning. Some of his noteworthy contributions are Indian Language NLP like IndoWordnet, Cognitive NLP, Low Resource MT, and Knowledge Graph-Deep Learning Synergy in Information Extraction and Question Answering. He has published close to 400 research papers (<https://scholar.google.co.in/citations?user=vvg-pAkAAAAJ&hl=en>, more than 13K citations and h-index 53), has authored/co-authored 6 books including a textbook on machine translation, and has guided more than 350 students for their Ph.D., Masters, and Undergraduate thesis. Prof. Bhattacharyya has been a visiting researcher at MIT and a visiting faculty at Stanford. He is a Fellow of the National Academy of Engineering, an Abdul Kalam National Fellow, a Distinguished Alumnus of IIT Kharagpur, an ex-Director of IIT Patna, and a past President of ACL (Association of Computational Linguistics).