
Electrical & Computer Engineering
S E M I N A R
Louisiana State University

Generative AI for Future Wireless Communications

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Abstract—The recent wave of progress in generative artificial intelligence (AI) has stimulated numerous novel concepts and achieved phenomenal success in modern applications, including ChatGPT. Beyond its critical role in content generation for computer vision and natural language processing, generative AI presents profound opportunities and unlimited potential in wireless communications and networking. In this talk, we systematically address the tremendous potential and opportunities presented by the emergence and integration of generative AI in high-efficiency and contextual communication networks. We present a transformative design of a future go-oriented contextual communication framework enabled by generative models of stable diffusion. Specifically, we deliver clear design and implementation steps, analyze properties and performances, and expand on potential future extensions.

Bio—Dr. Zhi Ding holds the position of distinguished professor in Department of Electrical and Computer Engineering at the University of California, Davis. He received his Ph.D. degree in Electrical Engineering from Cornell University in 1990. From 1990 to 2000, he was a faculty member of Auburn University and later, University of Iowa. Prof. Ding joined the College of Engineering at UC Davis in 2000. His major research interests and expertise cover the areas of wireless networking, communications, signal processing, multimedia, and learning. He was also an IEEE Distinguished Lecturer (Circuits and Systems Society, 2004-06, Communications Society, 2008-09). He served on as IEEE Transactions on Wireless Communications Steering Committee Member (2007-2009) and its Chair (2009-2010). Dr. Ding is a coauthor of the textbook: Modern Digital and Analog Communication Systems, 5th edition, Oxford University Press, 2019. Prof. Ding received the IEEE Communication Society's WTC Award in 2012 and the IEEE Communication Society's Education Award in 2020.

When: Thursday, **28 August 2025**, 10:30 - 11:30

Where: Room 3107 Patrick F. Taylor Hall

Info: <https://www.lsu.edu/eng/ece/seminar>

Food: ***Refreshments will be served.***

