



USC Viterbi School of Engineering

# Seminar

Ming Hsieh Department of Electrical and Computer Engineering



## GPU Computing and the Rise of Generative AI

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**Abstract:** Generative AI is transforming industries, with its powerful ability to create text, images, videos, computer code, and more. The advent and growth of GenAI have been driven by the evolution of GPU computing. Innovations in NVIDIA's GPU architectures over the last two decades have transformed GPUs from 3D graphics accelerators to also powerful AI accelerators. This talk will present this GPU computing journey of hardware and architectural advances, and it will discuss current and future technology challenges and opportunities. It will also discuss strategies for deploying GenAI networks in large GPU datacenters, where hardware and software advancements are combined to meet the real-time requirements of various industries.



**Bio:** **Stuart Oberman** is Vice President of GPU ASIC Engineering at NVIDIA. Since 2002, he has contributed to the design and verification of 12 GPU architectures. He currently directs multiple GPU design and verification teams. Stuart earned the BS degree in electrical engineering from the University of Iowa, and the MS and PhD degrees in electrical engineering from Stanford University, where he performed research in the Stanford Architecture and Arithmetic Group. He has coauthored one book and more than 20 technical papers. He holds more than 55 granted US patents.

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