

# A Synergy of Computer Graphics and Generative AI: Advancements and Challenges

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## Brief abstract

A traditional computer graphics domain has received an unprecedented boost from the newest developments in generative Artificial Intelligence (GenAI). It affects all areas: from image generation, to face recognition, to object detection, to aerial surveillance, to autonomous car vision systems. Newest deep learning architectures make it possible to generate new images from texts, to apply styles to portraits, to de-identify facial images, and to recognize human and objects in videos. This keynote will delve into some of the most exciting applications in medical AI diagnostics, human face recognition and aesthetics domains, while making a strong case for resulting image authenticity, bias mitigation and trust.

## Bio:

Marina L. Gavrilova is a Full Professor, an Order of the University of Calgary inductee and a head of the Biometric Technologies and SPARKS Laboratories in the Faculty of Science. Her publications include over 250 refereed articles, edited special issues, books and book chapters in the areas of machine learning, information fusion, knowledge discovery and cybersecurity. She serves as a Founding Editor-in-Chief of Transactions on Computational Science Journal, Springer and an Editor-in-Chief of the International Journal of Digital Human, Inderscience. As a globally renown award-winning researcher and educator, Dr. Gavrilova has given over 50 keynotes, invited lectures and tutorials at major scientific gatherings worldwide, including Stanford University, Purdue University, Fordham University, Microsoft Research USA, Oxford University UK, Samsung Research South Korea and Nanyang Technological University, Singapore. Dr. Gavrilova is a passionate advocate of equity, diversity and inclusion in academia, industry and society.