

# Generative AI: Case studies in neuroimaging

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## **ABSTRACT**

Generative AI, a subset of artificial intelligence focused on creating new content from learned patterns, is revolutionizing various fields, including neuroimaging. This presentation explores groundbreaking case studies where generative AI has been applied to neuroimaging, demonstrating its potential to enhance diagnostic accuracy, streamline workflows, and uncover novel insights into brain function and structure. Key applications include the generation of synthetic brain images to augment training datasets, the reconstruction of high-resolution images from low-quality scans, and the identification of subtle patterns linked to neurological conditions. By showcasing these case studies, we aim to illustrate the transformative impact of generative AI on neuroimaging, highlighting both its current achievements and future possibilities. This presentation will be of interest to healthcare professionals, researchers, and technologists eager to understand how advanced AI techniques are shaping the future of neuroimaging.