Generative AI refers to a category of artificial intelligence systems that can generate new content, ranging from text and images to music and code, based on learned patterns and data inputs. This type of AI employs advanced machine learning models such as Generative Adversarial Networks (GANs), Variational Autoencoders (VAEs), and Transformer models to produce outputs that are often indistinguishable from human-generated content. The core principle involves training these models on large datasets to understand and replicate the underlying structure and nuances of the data.