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Generative AI: History and foundations

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Abstract

We provide an introductory overview of Artificial Intelligence in general and Generative Artificial Intelligence (GenAI) in particular. It has been a journey that started over 70 years ago with big hopes and ambitions. We explore the historical evolution and the technological advancements that led to the recent breakthroughs in this field. We dive into the principles of GenAI, briefing its history and then concentrating on the so-called Large Language Models (LLMs) that are considered the backbone of the well-known generative models like ChatGPT. We explore the architecture, the training methodologies used, and the advantages and disadvantages of these technologies, hoping to equip that audience with a foundational understanding of the field and its implications.