**Generative Al:** Al capable of creating new content including text, audio, video, or images, learning from large datasets to produce original outputs.

**Large Language Model:** Al systems that process and generate language, trained on extensive text data using transformer architectures.

**Example:** GPT-3, which can generate essays and conversations.

**Analogy:** Think of it as a sophisticated autocomplete that crafts full texts.

**Transformer:** Type of AI architecture uses a method called self-attention to efficiently handle large datasets, focusing only on the relevant parts. It's significant for advanced AI tasks.

**Foundation / Pretrained Model:** Broad, general-purpose Al models trained on diverse datasets to support various tasks, forming the basis for more specialized models.

**Analogy:** A Swiss Army knife for AI, adaptable to many uses with slight adjustments.

**Fine-tuned Model:** A Foundational / Pretrained model refined on specific datasets to perform particular tasks more effectively.

**Example:** Language models adapted for healthcare by training on medical literature.

**Analogy:** Like water taking the shape of its container, foundational models adapt to specific tasks. Here, water is the foundational model, ice is the fine-tuned model, and the container is the training data.

**Context-Length:** The maximum amount of text an Al can handle at once for generating coherent responses.

**Instruction Tuning:** Enhancing pretrained models' ability to follow precise instructions through targeted prompt training.

**Example:** Improving a chatbot's responses by training with specific customer service dialogues.

**Analogy:** Teaching a student with tailored questions to excel in tests.

**Unimodal Model:** Al systems specialized in processing a single type of data, such as text, images, or audio.

**Example:** Text-only language models like GPT-3.

**Analogy:** Comparable to a specialist doctor focused exclusively on one medical field.

**Multimodal Model:** All systems that process and understand multiple types of data simultaneously to produce enriched outputs.

**Example:** All that analyzes videos to generate comprehensive summaries.

**Prompt:** Instructions given to AI to shape its outputs more effectively.

**Analogy:** Like giving an artist a theme to guide their artwork.

**Embeddings:** Converting data into numerical formats that Al can process, encapsulating meaning and relationships.

**Analogy:** Translating concepts into a numerical 'secret code' for Al comprehension.

**Vector Database:** Stores and manages data in the form of vectors - numerical representations typically used in machine learning. These vectors are stored in an n-dimensional space and are indexed using specialized algorithms, enabling fast retrieval based on similarity.