# The Hitchhiker's Tutorial to AI: Mastering GenAI, and Future-Ready Development

The one-day training session will provide a comprehensive overview of Large Language Models (LLM) and their applications. Participants will gain insights into OpenAI and Azure OpenAI, and understand their importance for software developers. The training will cover various generative AI models, including Completion, Chat Completions, and Embeddings, and delve into topics such as AI-Agents, tokens, probabilities, and semantic similarities.

Additionally, the session will introduce Retrieval Augmented Generation (RAG) and discuss vector stores like Azure Cognitive Search, QDrant, and SQL Server. Participants will also learn about AI Studio, provisioning AI services, model catalog and deployment, and working with playgrounds, hubs, and projects.

The training will also include a deep dive into the Microsoft Open Source Framework Semantic Kernel used to build you own Copilots. Participants will explore using the Semantic Kernel API with various Microsoft, Open AI and Open-Source models including lightweight models. Finally, participants will learn about creating native and semantic functions, advanced concepts of process orchestration with AI plugins, and function calling capabilities.

**Introduction**

* Overview of LLM
* Open AI and Azure OpenAI
* Importance for software developers

**A Deep Dive in Generative AI Generative AI**

* Access to LLM Services
* Types of generative models (Completion, Chat Completions, Embeddings,..)
* Tokens
* Completions with Probabilities
* Embeddings
* Retrieval Augmented Generation - RAG
* Vector Stores (Azure Cognitive Search, QDrant and SQL Server)

**AI Studio**

* Provisioning AI Services
* Model Catalog and Deployment
* Working with Playgrounds
* Hubs and Projects
* Working with Vectors

**Deep Dive into Semantic Kernel**

* Introduction to AI Agents and Semantic Kernel
* Overview and architecture
* Using the SDK wit OpenAI and Azure OpenAI
* Using different models
* Creating native functions
* Creating semantic functions
* Process orchestration and AI plugins
* Function Calling and Plans

 **Q&A and Discussion**

* Open floor for questions and discussions