Generative AI for Software Development

1 Month Part time program - Curriculum

S.No	Topic	Tools	Description
1	Introduction to the program		Introduction to Generative AI, What to expect from this program, Intro to course mentors, Self- Introductions
2	Prompt Engineering Fundamentals	ChatGPT	What is a Prompt? Elements of a Prompt. Tips for Designing Prompt, Example prompts for various use cases
3	Assignment 1		
4	Generative Texts	ChatGPT	Introduction to AI Chatbots, Working of AI Chatbots, Popular AI Chatbots, ChatGPT and its working, How to use ChatGPT, Usecases of ChatGPT for various users
5	Generative Images	Midjourney	Role of AI in Image Generation, Image Sourcing Vs, Image Generation, Popular AI tools for Image Generation. Midjourney for Image Generation, Working of midjourney, Advantages and disadvantages of Midjourney, How to use Midjourney, Usecases of Midjourney
6	Generative Videos	Synthesia	AI Tools in Video Making, Working of AI Video Makers, Benefits of AI Video Makers, Popular AI Video Makers, Introduction to Synthesia, Features of Synthesia, Who should use Synthesia? Compatibilty of Synthesia, Pros and Cons of Synthesia, How to use Synthesia, How to make AI Videos in 10 minutes, Practical Case studies of Synthesia
7	Generative Codes	Co-Pilot	Role of AI Tools in Programming, Copilot by Github, Working of Copilot, Copilot Compatibility, Advantages and Drawbacks of Copilot, How to use Copilot, How to Install the GitHub Copilot Extension, Converting Comments to Code using Copilot, Auto filling Repetitive Code using Copilot, Running Tests using Copilot, Navigatinging Unfamiliar Territory with Copilot, Creating an Application Entirely With Copilot, Some useful keyboard shortcuts for Github's Copilot
8	ChatGPT Alternatives	Bard, LLAMA	Alternative Chatbots, Comparision of ChatGPT, Bard, LLAMA, Claude
9	Assignment 2		
10	Project 1 (guided) : Build a website using Gen AI Tools		Build a web application clone of MakeMyTrip with the help of generative AI tools replicating the core functionalities of Makemytrip.com with a great UI experience
11	OpenAI APIs	Open AI APIs	understanding OpenAI APIs, OpenAI playground, creating API keys, Authentication, making requests
12	Building ChatGPT powered applications	Open AI APIs	build chatbots, integration with OpenAI API keys
13	Project 2 (guided) : Generative AI with Custom Data set	Botsonic, Chatbase	Train with custom data set
14	Project 3 (guided) : Build a chatbot		Build a chatbot to converse about a city with details about how to reach, places to visit, stay,etc.
15	Neural network fundamentals		From simple perceptron to multi-layer perceptron and its training
16	Assignment 3		
17	Deep learning and its architectures		Introducing deep learning and architectures such as CNN, RNN, GAN and transformers
18	Assignment 4		
19	Transformer and Large Language Model (LLM)		Detailed description of transformer architecture, use cases and various models for natural language processing
20	Training LLM for natural language processing		Training, fine tuning, evaluation and feedback through reinforcement learning
21	Assignment 5		
22	Generative Adversarial Networks (GAN) for image generation		Detailed description of GAN architecture, its training and variants
23	Assignment 6		
24	Project 4 (Self) : Buld a chatbot		Complete one chatbot building project from various available projects in domains like Travel, E-Commerce. Finance, Healthcare, Education, Legal, etc.
25	AI Tools Workshop 30 AI tools	30+ AI Tools	Basics of various AI tools available, How to use them
26	Embarking your Generative AI journey		How to get into Generative AI domain, why genAI is special, future of genAI, Next steps