FDP on Agentic AI

Objectives of Faculty Development Program are as follows:

- Equip faculty with foundational and advanced concepts in **Cloud Computing**, emphasizing real-world applications through the IBM Cloud platform.
- Introduce the principles and use cases of **Generative AI**, enabling hands-on experimentation with large language models via IBM Granite and Prompt Lab.
- Develop the ability to implement **Retrieval Augmented Generation (RAG)** using IBM Granite and Instruct Lab to enhance information retrieval capabilities.
- Enable participants to **design and deploy AI-powered chatbots** using IBM Watsonx Assistant for real-life customer engagement scenarios.
- Familiarize faculty with the concept and practical applications of **Agentic AI**, including tools and development approaches via IBM Agentic Lab.
- Provide hands-on exposure to **IBM Data Prep Kit (DPK)** for streamlined data preparation workflows and **IBM AI360** for building responsible AI systems.
- Empower educators to integrate these emerging technologies into their curriculum, fostering **industry-aligned teaching practices** and learner engagement.

Learning Outcomes-

At the end of this Faculty Development Program, participants will be able to:

1. **Explain** foundational and advanced concepts of Cloud Computing and **demonstrate** practical applications using IBM Cloud.
2. **Apply** Generative AI principles by experimenting with large language models through IBM Granite and Prompt Lab.
3. **Implement** Retrieval Augmented Generation (RAG) solutions using IBM Granite and Instruct Lab for improved information retrieval.
4. **Design and deploy** AI-powered chatbots using IBM Watsonx Assistant to address real-world customer interaction scenarios.
5. **Analyze and apply** Agentic AI concepts, tools, and development approaches using IBM Agentic Lab.
6. **Utilize** IBM Data Prep Kit (DPK) for efficient data preparation and **integrate** responsible AI practices with IBM AI360.
7. **Incorporate** emerging AI and cloud technologies into academic curricula to enhance teaching methodologies and **align** with industry requirements.

5 Days Program Details:

S. no	Day	Topic	Duration
1	Day1	IBM Skills build program orientation	10 Minutes
		Introduction to IBM cloud lite services	10 Minutes
		Demo on how to access IBM cloud account.	40 Minutes
		Explanation on Certificate course -Generative AI in Action - Introduction to Generative AI	40 Minutes
		Explanation on Certificate course -Generative AI in Action - Crafting Precision Prompts with Generative AI	40 Minutes
		Project-Design and develop Generative AI projects with IBM Granite models using Prompt lab on IBM Cloud.	40 Minutes
		Explanation on Certificate course -Generative AI in Action - Coding Simplified with Generative AI	30 Minutes
		Project- Create Jupyter notebook using IBM Watson studio on IBM cloud platform. Discussion about Hackathon problem statements.	30 Minutes
2	Day2	Introduction to RAG. Lab - Retrieval Augmented Generation with Lang Chain	1 hrs 15 mins Minutes
		Introduction to Langflow. Installation of Langflow.	30 Minutes
		Hands-On Lab: Building a Simple Q&A Bot using Langflow	40 Minutes
		Langflow - Project 1: Creating autonomous agent	45 Minutes
		Explanation on Certificate course -Code Generation and Optimization Using IBM Granite	40 Minutes
		Review of Project progress	10 minutes
3	**Day3**	Introduction to Agentic AI, Project on Agentic AI using IBM Agentic AI with IBM cloud.	1 Hour
		Introduction to IBM Data Prep Kit (DPK) , Demo on Data Prep Kit (DPK)	50 Minutes
		Langflow Project 2 – RAG based Thai Recipe Autonomous agent	30 Minutes
		Project- Design, develop and deploy Machine learning model using Watsonx on IBM cloud.	1 Hour
		Langflow Project 3 – Multi-Agent System (MAS) for Travel.	30 Minutes
		Review of Project progress	10 minutes
4	Day4	IBM AI360 , Demo on IBM AI360	30 Minutes
		Project- Design and Develop ChatBot using IBM Watsonx Assistant on IBM cloud platform	1 Hours Minutes

		Project- Perform Data Analytics ETL operations using IBM Data Refinery on IBM cloud platform	40 Minutes
		Instruct Lab , Demo on Instruct Lab using IBM Granite model	30 Minutes
		Project- Deploy static website on IBM Cloud	35 Minutes
		Project- Create IBM Db2 database and perform CRUD operations	35 Minutes
		Review of Project progress	10 minutes
5	Day 5	Hackathon project Presentation by faculty members.	220 Minutes
		Submission of Final Project PPT, Credly certification, RAG Lab course.	20 minutes

Prerequisites

Participants are expected to have:

1. Basic knowledge of computer science and python programming concepts.
2. Access to a laptop/PC with stable internet connectivity.
3. Willingness to learn and actively participate in hands-on sessions and collaborative activities.

NOTE:

- Faculty from Computer Science, Information Technology, or Electronics and Telecommunication backgrounds are preferred. However, interested faculty from other streams are also welcome to join the FDP.
- The FDP is free of cost.