TCS AI Fridays – Participant Handbook

VERSION 1.0

Document Release Notice

This TCS AI Fridays Hackathon – Participant Handbook, Version 1.0 is released for use in TATA Consultancy Services (TCS) with effect from 01/08/2025.

This document is subjected to TCS Document Control Procedure.

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1. Introduction

AI is redefining how we operate and use technology to create business value. The potential of AI is all encompassing: AI will solve business problems and create new opportunities, transforming how we deliver services to our customers. These are exciting times and each one of us should contribute with our ideas and expertise to realize the potential of AI. tcs^{AI} (to be read as 'TCS to the power of AI') is bringing AI closer to you through AI/GenAI hackathons and in-person labs (AI Fridays) at branch level. It is an intensive, innovation-driven event where participants come together to solve real-world problems using artificial intelligence and machine learning. Over a limited time frame, teams will design, build, and present AI-powered solutions across various domains such as manufacturing, healthcare, finance, sustainability, and more.

2. Purpose

This handbook will guide you through everything you need to know to make the most of your hackathon experience. It also outlines the roles, responsibilities, protocols, models, FAQs for participants. Provide resources and references to ensure success.

3. Scope

This handbook applies to all participants involved in the AI Friday event.

4. Overview

Here is the overview of the complete process at high level. The participant journey in the AI Friday is designed to provide structured engagement, enabling participants to effectively collaborate, experiment on real world use case and enriching their own learning experience. If you encounter any issues, please contact your branch SPOC listed in the Annexure. **Refer: 13.8**

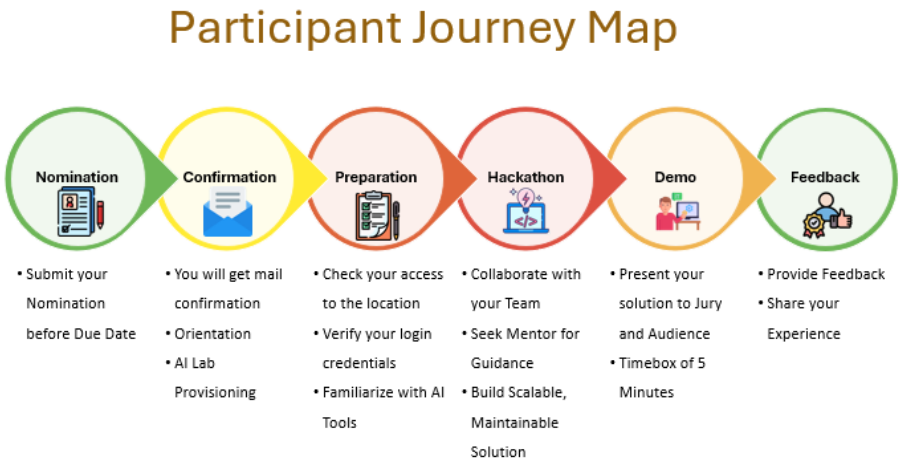


Figure 1 Participant Journey Map

5. Eligibility and Registration

This section outlines eligibility requirements and registration process.

5.1. Who Can Participate

- Open to all associates who have a passion for AI/ML, data science, or problem-solving
- Pre-requisite - Basic knowledge of Python and LLM is needed. If you lack knowledge in these areas and wish to upskill, please refer to the courses listed in the section. **Refer: 13.9**
- Participants can join as individuals or form a team of 5 members, out of which minimum 2 associates should be of Grades C1 or below

5.2. Registration Process

- Complete the online registration form at this link - **Nomination Form**
- Specifying whether you are nominating a team or registering as an individual.
- If you are nominating as a team, please include your team's name, team members' Employee IDs, your years of experience, preferred date for participation (one of the Friday's listed), BG Name, TCS Office location, skill set, mobile number with consent, T-shirt size. Please be aware of this date is a preference and your Branch SPOC will confirm the same.
- For team nominations, ensure that each team member fills out the form separately and refer the same team's name and team member employee id's. Mismatch in this will lead to not having the preferred team members.

6. Team Formation

Teams should be diverse in skills and experience, promoting learning and collaboration. Balanced teams often lead to better, well-rounded solutions

Guidelines:

- Team size: 5 members out of which minimum 2 associates should be of Grades C1 or below
- Teams can be self-formed before the event, and all members should mention the same team's name while registering as mentioned in section 5.2
- For individual nominations, teams will be randomly formed using AI

7. Pre-Event Activities

7.1. Orientation

A structured orientation ensures participants understand the hackathon process, expectations, and available resources.

Orientation Includes:

- Overview of event structure and timelines
- Meet and greet with mentors and organizing team
- Q&A session to address any participant queries

Attendance is highly recommended to align with expectations and timelines.

7.2. Access Provisioning

- Access will be granted to nominated participants every Monday
- Ensure you have access to the designated location
- If you do not have access to the building, raise a 2Office request via Ultimatix

7.3. AI Lab Onboarding

- Once access and login credentials are received, visit the AI Lab at your respective Location. **Refer: 13.8**
- Verify your login credentials

7.4. Tool & Team Familiarization

- Explore and get comfortable with the AI tools that will be used during the Hackathon
- You can use AI lab as playground to learn from Monday to Thursday
- Also use this as an opportunity to understand/appreciate your fellow team members (those teams formed by AI).
- Refer the Annexure section for sample code and list of available models

8. During the Event

During the event, participant will work closely with mentors for guidance and, support. Mentors will be randomly assigned to each team. This section explains the expectations for interactions, collaboration, and conduct during the event. The event timings provided are indicative. Please connect with your Branch SPOC for specific event timings & details, as they can vary for each branch.

8.1. Agenda for Match Day

#	Topic	Start Time	End Time	Duration
1	Introduction/Networking	2:00	2:30	00:30

2	Match Time	2:30	6:30	04:00
3	Demo	6:30	7:00	00:30
4	Wrap Up	7:00	7:30	00:30

8.2. Code of Conduct

- Maintain ethical behaviour and inclusive communication
- Respect others' ideas, time, and effort
- Avoid the use of proprietary data or unauthorized tools
- Inform organizers well in advance in case of changes in your availability
- Adhere to the Tata code of conduct in its entirety
- During conflicts organizers decision shall be conclusive

8.3. Data Usage & Ethics

- Use only open-source or provided datasets or you can create your own synthetic data
- Ensure responsible AI principles are followed: fairness, accountability, and transparency
- Cite all datasets and pre-trained models used

8.4. Interactions

- Prepare your queries or blockers in advance for effective discussion with mentors
- Collaborate within team effectively to build the solution and ensure every team member has a role to play. Evaluation criteria will consider this aspect (Refer **section 8.8**)

8.5. Development Guidelines

- Use proper code commenting and modular design
- Use a popular /scalable Framework to build the solution
- Choose a Vector database or traditional database wherever applicable
- Avoid using ChatGPT to craft the entire solution
- Avoid cloning GitHub repositories for developing the entire solution

8.6. Demo

During the final stage of the hackathon, each team will present their AI solution to the jury and audience. This is your opportunity to showcase the problem-solving approach, technical implementation, and the impact of your project — concisely and convincingly.

Each team will get exactly 5 minutes to present. Ensure that everyone has the opportunity to speak. Time management is critical — plan your demo to highlight the essence of your work effectively.

8.6.1. Suggested Flow for Demo

- **Introduction (30 sec):** Briefly state your team's name, problem statement, and the objective of your solution.
- **Problem Context (30 sec):** What challenge are you solving and why is it important?
- **Solution Overview (1 min):** Describe the AI model, approach taken, tools used, and any innovation introduced.
- **Live Demo or Walkthrough (2 min):** Demonstrate your working prototype or solution flow with emphasis on usability and impact.
- **Results & Metrics (30 sec):** Present performance metrics (e.g., accuracy, precision, AUC), validations, or comparisons with baseline.
- **Conclusion (30 sec):** Summarize key outcomes, limitations (if any), and possible future enhancements.

8.6.2. Time Management Tips

- Assign a presenter for each flow, rehearse to stay within the time.
- Avoid spending too much time on theoretical background.
- Prioritize clarity and flow over technical depth — jury may ask follow-up questions afterward.

8.7. Submission Guidelines

Each team must submit their solution within the defined Deadline, and it must include:

- Source code with README
- Model notebook(s) or pipeline with explanation
- Presentation deck containing Problem statement, Solution approach, AI/ML techniques and Challenges Faced
- Demo video (max 5 minutes) -Optional

8.8. Evaluation Criteria

Projects are evaluated on a blend of innovation, impact, and execution.

Scoring Parameters:

- Participation and engagement during sessions
- Successful completion of hands-on activities
- Completion of the working application
- Creativity and innovation in the given projects
- Participation and demonstration of understanding quizzes and debates

9. Escalation & Support

Sometimes challenges arise that participant can't resolve alone. This section provides the protocol for raising concerns or requesting help from organizers.

- Escalate technical issues or rule violations to the branch SPOC. **Refer: 13.8**

10. Post-Event Activities

After the event, participant may participate in feedback, Demo. This section outlines post-event responsibilities.
Selected solutions may receive further attention, development support, or exposure.

10.1. Awards & Recognition

Top-performing teams as evaluated by the Jury will be duly recognized.

11. Benefits for Participant

Participating in the AI Friday event is not just about gamified playground; it's also a rewarding and enriching learning experience. This section outlines the personal and professional benefits participants gain from participating.

11.1. Leadership Recognition

- Opportunity to be recognized as a domain expert and thought leader within the organization

11.2. Networking

- Connect with like-minded professionals, tech leaders, and emerging AI talent across departments or organizations

11.3. Skill Sharpening

- Exposure to fresh ideas and problem-solving approaches can help sharpen your own AI/ML skills and perspectives
- Hands-on experience with AI tools and technologies with an open environment to explore

11.4. Contribution to Learning Culture

- Be a key part of promoting innovation, continuous learning, and ethical AI practices in your community

11.5. Recognition

- Teams that excel and are recognized by the Jury will receive due recognition.

12.Key Milestones & Timeline

To help you plan and stay on track, here's a snapshot of the key phases and important dates for the TCS AI Fridays Hackathon:

12.1. Round 1 Fridays:

- Every Week 10 to 20 New Teams will be identified. Each team will get 1 new real world AI problem
- Monday to Thursday Pre Match Coaching
- Friday is the main competition
- 1 Team qualifies for the next round of Branch Quarter Finals

12.2. Round 2 Last Friday of the Quarter:

- Every Quarter, 12 Weekly winning teams from Round 1 Qualifier compete at Branch Quarterly Finals to progress for National Quarterly Finals
- More Advanced real-world problems will be given to solve
- 1 Teams each from 12 branches qualify to the Quarter National Final

12.3. Quarterly National Final – Residential:

- Every Quarter 12 winning Teams of Quarterly Branch finals from 12 branches will participate
- Advanced Problem to Solve
- 1 National Quarter Winners
- Quarterly Celebration

12.4. Mega National Finals – 1 Week:

- Annual Showdown 4 Teams – Winner of each National Quarter Finals
- 1 Week in person Residential Hackathon
- 1 National Winning team

13.Annexure

Reference materials to understand infrastructure set up and alignment with event goals.

13.1. Gen AI Lab Setup

Laptop pre-loaded with python, VS Code, AI tools, shared folder for team collaboration will be available at AI Lab. These laptops are not in TCS network, you cannot access Teams, Mailbox etc. They have access to open Internet to explore all open AI tools and technologies.

- Below is the high-level Architecture of the Gen AI Lab Setup

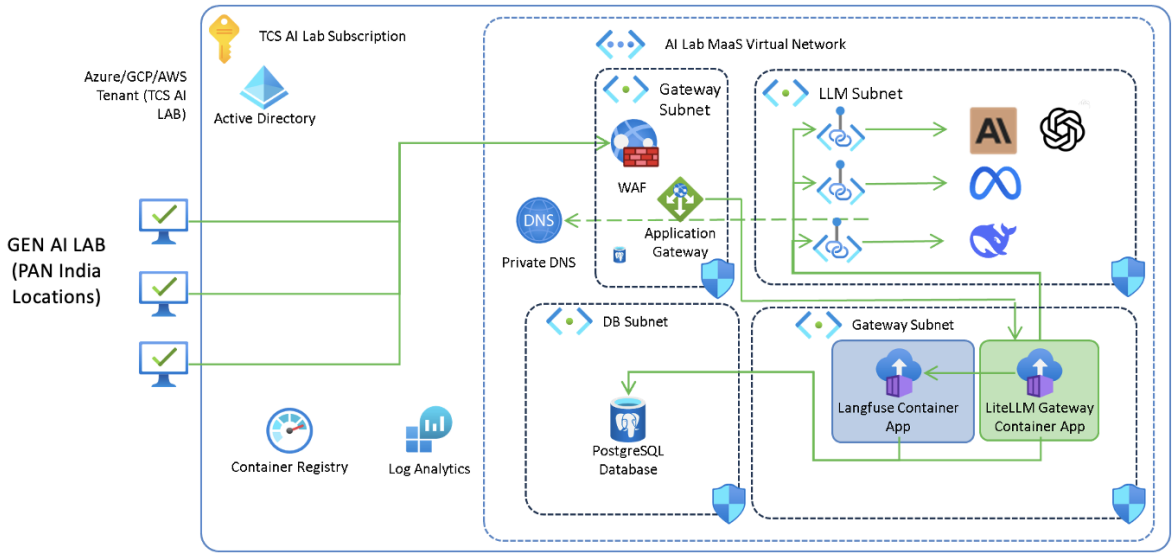


Figure 2:Gen AI Lab Setup Architecture

13.2. Preinstalled Software List

- Python
- Apache Open Office
- Microsoft VS Code
- Ollama
- Tesseract OCR

13.3. Preinstalled Local SLMs List

- Llama-3.2-3b-it (SLM – Chat Model)
- Gemma-3-4b-it (SLM – Chat Model)
- Qwen-2.5.1-coder-it (SLM – Chat Model)
- Deepseek-r1 (SLM – Reasoning Model)

- Gte-large (SLM – Embedding Model)

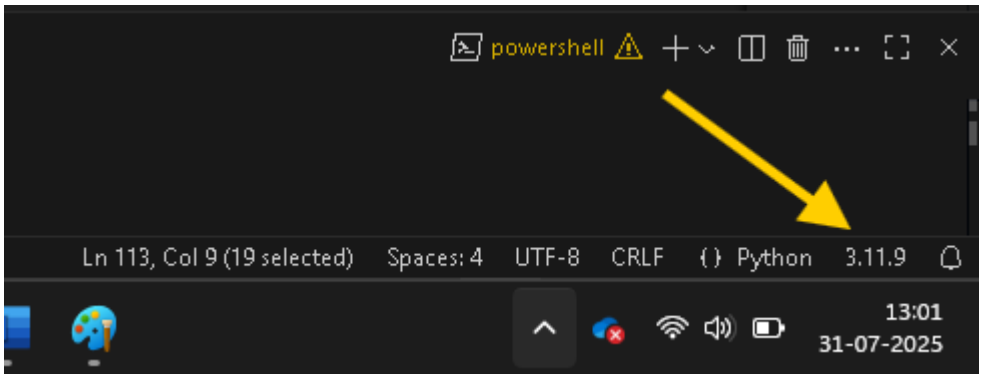
13.4. Python Setup

Install Python extension for VS Code and Refer the following link to set the Python version while working in VS Code.

Click on the Python version displayed on the bottom right corner of the VS Code. Select *Python 3.12.8 – Global*

Once selected, you run *pip freeze* in the VS Code terminal to check the list of pre-installed packages.

Below is sample for your reference



13.5. List of currently available Models

- azure/genailab-maas-gpt-35-turbo
- azure/genailab-maas-gpt-4o
- azure/genailab-maas-gpt-4o-mini
- azure/genailab-maas-text-embedding-3-large
- azure/genailab-maas-whisper
- azure_ai/genailab-maas-DeepSeek-R1
- azure_ai/genailab-maas-DeepSeek-V3-0324
- azure_ai/genailab-maas-Llama-3.2-90B-Vision-Instruct
- azure_ai/genailab-maas-Llama-3.3-70B-Instruct
- azure_ai/genailab-maas-Llama-4-Maverick-17B-128E-Instruct-FP8
- azure_ai/genailab-maas-Phi-3.5-vision-instruct
- azure_ai/genailab-maas-Phi-4-reasoning

13.6. Sample Code- To Test the environment

!pip install langchain-openai

```
from langchain_openai import ChatOpenAI

import os

import httpx

client = httpx.Client(verify=False)

llm = ChatOpenAI(

base_url="https://genailab.tcs.in"

model = "azure_ai/genailab-maas-DeepSeek-V3-0324",

api_key="XXXXXXXXXX ", # Will be provided during event.  And this key is for Hackathon purposes only and should not be used for any unauthorized purposes

http_client = client

)

llm.invoke("Hi")
```

It should produce welcome message from the LLM

13.7. Sample Code- RAG Application

```
import streamlit as st

from pdfminer.high_level import extract_text

from langchain.text_splitter import RecursiveCharacterTextSplitter

from langchain_openai import ChatOpenAI, OpenAIEmbeddings

from langchain_community.vectorstores import Chroma

from langchain.chains import RetrievalQA

import tempfile

import os

import httpx

import tiktoken


tiktoken_cache_dir = "./token"
```

```
os.environ["TIKTOKEN_CACHE_DIR"] = tiktoken_cache_dir
client = httpx.Client(verify=False)

# LLM and Embedding setup
llm = ChatOpenAI(
  base_url="https://genailab.tcs.in",
  model="azure_ai/genailab-maas-DeepSeek-V3-0324",
  api_key=" YOUR KEY ",
  http_client=client
)
embedding_model = OpenAIEmbeddings(
  base_url="https://genailab.tcs.in",
  model="azure/genailab-maas-text-embedding-3-large",
  api_key="YOUR KEY",
  http_client=client)
st.set_page_config(page_title="RAG PDF Summarizer")
st.title(" 📄 RAG-powered PDF Summarizer")
upload_file = st.file_uploader("Upload a PDF", type="pdf")
if upload_file:
  with tempfile.NamedTemporaryFile(delete=False, suffix=".pdf") as temp_file:
    temp_file.write(upload_file.read())
    temp_file_path = temp_file.name
  # Step 1: Extract text
  raw_text = extract_text(temp_file_path)
  # Step 2: Chunking
```

```
text_splitter = RecursiveCharacterTextSplitter(chunk_size=1000, chunk_overlap
=200)

chunks = text_splitter.split_text(raw_text)

# Step 3: Embed and store in Chroma

with st.spinner("Indexing document..."):

    vectordb = Chroma.from_texts(chunks, embedding_model,persist_directory="
./chroma_index")

    vectordb.persist()

# Step 4: RAG QA Chain

#retriever
= vectordb.as_retriever(search_type="similarity", search_kwargs={"k": 5})

retriever = vectordb.as_retriever()

rag_chain = RetrievalQA.from_chain_type(

    llm=llm,

    retriever=retriever,

    return_source_documents=True

)

# Step 5: Ask summarization prompt

summary_prompt = "Please summarize this document based on the key topics:"

with st.spinner("Running RAG summarization..."):

    # result = rag_chain.run(summary_prompt)

    result = rag_chain.invoke(summary_prompt)

st.subheader("📌 Summary")

st.write(result)
```

13.8. Regional SPOC Details

Branch	SPOC Emp ID	SPOC Name	Lab Locations

Ahmedabad	1. 671041 2. 172747	1. Mayank Patel 2. Priti Vyas	Block1, Floor 3, ODC-8
Bangalore	1. 118270 2. 469133	1. Savitha Rodrigues 2. Deepak Singhi	1. Anchor - TR1 & TR2, 8th Floor 2. Pioneer - Saranga TR - First Floor 3. Think campus - TR4, B4 Building
Chennai	1. 588968	1. Narmada G	Siruseri, Signature Tower, 1st Floor, D2 Module
Hyderabad	1. 112898 2. 124014	1. Praveen Vadapally 2. Sirisha Pera	1. Synergy Park, MPH, 3F ODC6 2. Adibatla S4-1-Z11
Pune	1. 105962 2. 5700926 3. 1061926	1. Varsha Kini 2. Jyoti Raut 3. Esther David	1. SP2 Tower 2 TR1 2. Commerzone 5th Floor CR 3. Quadra TR-1
Mumbai	1. 170866 2. 336312	1. Yashasree Barve 2. Lakshmi Vaidyalingam	1. TCS Olympus A, 8 E 2. Powai Ken (TBC)
Kolkata	1. 111764 2. 1122453	1. Sabjukta Ray 2. Bratati Roy	Gitanjali Park ODC- 3-B-3
New Delhi	1. 146663	1. Amit Gupta	
Bhubaneswar	1. 522770 2. 346219 3. 163823	1. Nishipadma Mishra 2. Biswaranjan Jena 3. Bijoy Ketan Panda	Hirakud - 2F-ADC-2B
Indore	1. 2312426 2. 355465	1. Kriyesh Patidar 2. Shikhar Dadhich	Ground Floor, L1 Block
Kochi	1. 142447 2. 170419 3. 108149	1. Arun Narayan Thekkethil 2. Prasad Panthayil 3. Reeja George	"Gurukool", 6th Floor, Vismaya Building, Infopark
Trivandrum	1. 158296	1. Rakesh Unnee	Block B, 2nd floor ODC 4
Nagpur	1. 333913 2. 869063	1. Devashish Rao 2. Sarang Bhalerao	EB7, G Floor, ODC C
Lucknow	1. 107613 2. 141183	1. Ambili K 2. Manish Rajput	7th Floor, TCS Awadh Park
Varanasi	1. 143210 2. 1529363	1. Ravi Kohli 2. Dhruv Kumar	TCS Siddha Complex, Floor 2, 3 & 4 Internet Kiosk Rooms

13.9. Competency Details for Upskilling

To enhance your skills in AI development, please refresh your competencies listed below. Additionally, reach out to your branch TD for other upskilling programs on AI/Gen AI. A foundational understanding in any of these competencies, among others, will enable you to participate effectively in AI Fridays.

S.No.	Course ID	Course Name	Link
1.	5386	Digital: Python	iEvolve
2.	5406	Digital: Deep Learning	iEvolve
3.	5407	Digital: Machine Learning	iEvolve
4.	5416	Digital: Artificial Intelligence	iEvolve
5.	6618	Generative AI	iEvolve
6.	62757	Learning REST APIs	iEvolve
7.	83068	Agentic AI Fundamentals: Architectures, Frameworks, and Applications_LinkedIn	iEvolve
8.	83071	Agentic AI for Developers: Concepts and Application for Enterprises_LinkedIn	iEvolve

13.10. Frequently Asked Questions (FAQs)

13.10.1. What is the AI Lab?

The AI Lab is a collaborative learning and development environment focused on exploring, building, and experimenting with artificial intelligence technologies. The AI Lab hosts essential tools like Jupyter Notebooks, VS Code, Python libraries (e.g., TensorFlow, PyTorch), and shared folder for real-time collaboration with team.

13.10.2. Who Provides Access to AI Lab?

Regional SPOC is responsible for managing and provisioning AI Lab access. **Refer: 13.8**

13.10.3. What to Expect After Access is Granted?

Login Details: Sent via email with secure link and password.

Environment: Pre-configured Laptop with core AI tools and libraries.

13.10.4. What is the purpose of the Program?

The AI Friday aims to foster innovation and problem-solving through the development of AI-powered tools that align with real-world business challenges and emerging technology trends. It's an opportunity to showcase talent, creativity, and technical expertise.

13.10.5. Who can participate?

Anyone within TCS with passion to solve problem using AI - from beginners to experienced professionals. Basic knowledge of Python and LLMs is needed.

13.10.6. Do I need prior experience in AI or programming?

Yes, participants should understand Python, GenAI

13.10.7. What if I don't have experience in Python or GenAI?

You can connect with Talent Development to upskill yourself.

13.10.8. What kind of projects or activities will we be working on?

Projects may range from building ML models and using AI APIs to tackling real-world problems with data-driven solutions

13.10.9. Is this a team-based or individual event?

It's a team event, either you can form your own team and nominate or nominate individually (**Refer: 6**). If nominated individually, organizers will form a team using power of AI.

13.10.10. Will resources be provided?

Yes. Participants will receive Laptop loaded with Python, VS Code, access to open Internet, relevant tools and mentoring support.

13.10.11. What mindset should I have while building my solution for the AI Hackathon?

You should build your solution with an enterprise application development mindset, focusing on scalability, reliability, and maintainability.

13.10.12. What tools or platforms will we be using?

Common tools include Python, Jupyter Notebooks, TensorFlow, PyTorch, Hugging Face, OpenAI APIs, and GitHub.

13.10.13. Will there be any mentorship or support during the Lab?

Yes. Mentors will be available during scheduled hours to help with technical, conceptual, and project-related questions.

13.10.14. What if I face technical issues during the Lab?

A Digital Infrastructure Support (DIS) team will be available to help troubleshoot technical problems.

13.10.15. What frameworks or tools are recommended for building a scalable solution in the AI Hackathon?

You should build your solution with an enterprise application development mindset, focusing on scalability, reliability, and maintainability.

13.10.16. Can I use ChatGPT to craft my entire solution for the AI Hackathon?

No, it's recommended to avoid relying entirely on ChatGPT and instead use your own development skills to build a scalable and maintainable solution.

13.10.17. Can I use existing GitHub repositories to develop my entire solution?

No, it's recommended to avoid cloning or directly using entire GitHub repositories. Instead, use them as a reference or inspiration to build your own solution, demonstrating your development skills and creativity.

13.10.18. Can I use external APIs or Model-as-a-Service for my primary solution?

No, to ensure a level playing field, please use the underlying infrastructure and models provided for the hackathon. This means avoiding external APIs or Model-as-a-Service for your primary solution that will be evaluated.

13.10.19. Will I get to experiment on latest AI technologies like MCP, GraphDB etc?

Organizing committee is exploring all possibilities to bring latest technologies on board for all participant to experiment and explore.

13.10.20. Will I have another chance to participate in the Hackathon if I don’t make it through the initial rounds?

Absolutely. You will be eligible to compete again after a cooling period of one quarter.