CAPSTONE PROJECT GUIDELINES

The Capstone Project is an integral part of the Advanced Programme in Generative AI and Prompt Engineering that provides an opportunity to implement a full-length project, from gathering data to building a solution and demonstrating it as a standalone application.

Following steps are involved in the Capstone Project

1. Identifying the Problem statement
2. Data gathering, cleaning
3. Data exploration and feature engineering
4. Data-driven model selection
5. Training and Testing
6. Deployment (data engineering, app-building etc)
7. Presentation of solution and driving insights (explaining to customers)

Important Guidelines:

1. The Capstone teams are the same as the Mini-project teams, unless a change is requested (before submission of project proposal).
2. We will provide 16 projects (including problem statements and datasets). Teams are encouraged to bring their own projects as well.
3. More than one group can work on the same project.
4. The project will carry a total weightage of 240 points.
5. It is mandatory to work with a public dataset. Anonymized data with proper written formal permissions from the concerned authority are admissible. We will not be a part of any NDA agreement.
6. Project Proposal: It will consist of a 3-5 pages document, covering the title, problem statement, objectives, methodologies, possible outcomes, and applicability in the real world. Please refer to the provided Project Proposal Template on LMS under Capstone Project module.
7. Mentoring sessions to guide you during the Capstone Project will be conducted as per the Program schedule.
8. On the Capstone Final Presentation day, each group will be given 30 minutes for their presentation. Faculty will evaluate the presentations and provide their feedback to each group.

Project Timelines and Points

S. No.	Activity	Date(s)	Points (180)
1.	Release of IISc-TS Capstone project statements	Oct 14, 2024	-
2.	Submission of project title, objective, dataset (IISc-TS projects **or** own project) to be shared by participants through email to genai.support@talentsprint.com.	Oct 21, 2024	-
3.	Final team numbers, members and project titles announcement on LMS	Oct 24, 2024	-
4.	Project Proposal submission	Nov 7, 2024	20
5.	Capstone Project – Mentored session 1	Nov 16, 2024	10
6.	Capstone Project – Mentored session 2	Nov 23, 2024	10
7.	Capstone Project – Mentored session 3	Nov 30, 2024	10
8.	Capstone Project – Mentored session 4	Dec 7, 2024	10
9.	Final Report	Dec 10, 2024	20
10.	Final Presentation*	Dec 14-15, 2024	100

Note:

Final Presentation Points (100) break-up:

i. Technical correctness – 70

(a) 25 points for following the plan including choosing the right model
(b) 25 points for other technical correctness
(c) 20 points for handling edge cases and thinking about issues

ii. Quality of presentation and delivery – 30

Please take note of the following:

- **Optimizing Compute Resources**: When working on your capstone project, it is important to consider factors such as data size and compute requirements for training and inference to ensure cost-effectiveness. We encourage you to strategize and find ways to minimize costs while achieving excellent results.

- **Self-Managed Resources**: Please be aware that individual capstone teams are responsible for managing their computing resources and other project requirements independently. TalentSprint will not provide any compute resources, hosting services, or access to cloud platforms (such as AWS, GCP, Azure, etc.) for the capstone project.

Guidelines for Managing Costs in Generative AI Projects

1. **Understand Pricing Structures**
   Before using OpenAI's models, review the pricing details to understand the costs associated with each API call, model, or service. Opt for models that suit your project's needs without overextending the budget.
2. **Use the Right Model for the Right Task**
   Different generative models have varying capabilities and costs. For simpler tasks, use smaller or less costly models. Reserve more powerful models (like GPT-4) for tasks where advanced reasoning or creativity is critical.
3. **Optimize API Usage**
   Ensure API calls are efficient:
   - **Batch requests**: Wherever possible, group queries into fewer calls.
   - **Limit token usage**: Be concise with input prompts and set token limits to control the length of responses.
   - **Use temperature settings smartly**: Adjust the "creativity" setting to avoid excessive, costly responses for straightforward tasks.
4. **Monitor and Track Usage**
   Regularly review your usage statistics through the OpenAI dashboard to track costs and identify opportunities to optimize further.
5. **Set Budget Limits**
   Set hard limits on how much you spend to prevent cost overshoot.
6. **Leverage Free or Lower-Cost Tiers**
   Some tools offer free-tier usage up to certain limits. Try to make use of these offerings.