

# Sstudize LLM Engineer Internship Task Briefing Document



## **Task: Design and Implement an AI-Driven Skill Assessment System for JEE Students**

### **Objective:**

Develop a research-backed approach and a basic implementation for an AI-driven system that assesses JEE students' skills through a SOCA (Strengths, Opportunities, Challenges, and Action Plan) analysis.

### **Task Breakdown:**

#### **1. Research and Planning Document:**

- **Goal:** Provide a detailed plan outlining your approach to the task.
- **Instructions:**
  - **Problem Analysis:** Describe your understanding of the problem and the requirements.
  - **Technology Stack:** Identify and justify the technologies you plan to use (e.g., LLM APIs like Hugging Face Transformers, OpenAI GPT, data processing tools).
  - **Roadmap:** Create a step-by-step plan, including timeline estimates for each phase of the task.
  - **Challenges and Considerations:** Discuss potential challenges, limitations, and how you would address them.
- **Note:** This document is crucial and must be submitted for your application to be considered. Failure to submit this document will result in disqualification.

## 2. Code Implementation:

- **Goal:** Write and submit code to implement the AI-driven skill assessment system based on your research.
  
  - **Instructions:**
    - A. Questionnaire Design:
      - **Develop Questions:** Create a set of questions that assess a JEE student's current knowledge, study habits, and overall preparation.
      - **Coverage Areas:** Ensure the questionnaire addresses:
        - Subject-specific knowledge (Physics, Chemistry, Mathematics)
        - Time management skills
        - Problem-solving approaches
        - Stress management and mental well-being
        - Study techniques and resources used
      - **Question Types:** Include a mix of multiple-choice, short-answer, and scale-based questions.
    - B. AI Model Integration:
      - **Model Selection:** Choose and integrate an appropriate open-source LLM API.
      - **Processing:** Implement a system to process questionnaire responses and generate the SOCA analysis.
    - C. SOCA Analysis Generation:
      - **Algorithm Development:** Develop an AI-driven algorithm to analyze questionnaire responses and produce:
        - **Strengths:** Areas where the student excels.
        - **Opportunities:** Potential areas for growth and improvement.
        - **Challenges:** Specific difficulties or obstacles the student faces.
        - **Action Plan:** Personalized recommendations for improvement.
    - D. Output Generation:
      - **Presentation Format:** Design a clear and concise format for presenting the SOCA analysis.
      - **User-Friendliness:** Ensure the output is easily understandable for both students and educators.
  - **Note:** Deployment of the system is not required, but if you choose to deploy it, it will be considered an added advantage.
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## **Deliverables:**

### **1. Research Document(mandatory to submit):**

- **Format:** Submit a detailed research and planning document in PDF format.
- **Contents:**
  - Problem Analysis
  - Technology Stack
  - Implementation Roadmap
  - Considerations and Challenges
- **Importance:** This document is the minimum requirement. Your application will only be considered with it.

### **2. Code Base:**

- **Format:** Submit a zip file or a link to a notebook (Google Colab, Jupyter, etc.) containing your code.
- **Contents:**
  - Questionnaire Processing Code
  - AI Model Integration Code
  - SOCA Analysis Output Code
- **Optional:** Include deployment details in the submission if you deploy the code.

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## **Incentives:**

- **Mandatory Submission:** Completing the research document must be considered for the position otherwise you by default get rejected for this internship.
- **Bonus:**
  1. If you **complete both the research document and the code implementation and are onboarded**, you will receive a joining bonus of ₹100. If you are not selected despite your task submission, you won't be entitled to this bonus.
  2. If you **complete the research document, code implementation as well as deployment of the model and are onboarded**, you will receive a joining bonus of ₹200. If you are not selected despite your task submission, you won't be entitled to this bonus.

- **Advantage:** While deployment is not required, successfully deploying the system will give you an edge over other candidates.
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**Time Allotment:**

You will have **3 days** to complete this task. Ensure you allocate your time effectively to cover all aspects, focusing on the mandatory research document first, followed by the code implementation.