

Moderate Ltd (India – UK)

Our team at Moderate is working on an ambitious project: developing an AI-driven digital tool designed to make culturally relevant support accessible to everyone. We're seeking passionate and talented developers, from interns to experienced professionals, with positions available in Chennai, Trichy, Coimbatore, and Bangalore:

Assignment for AI/ML Developer Role

To evaluate candidates for the AI/ML Developer role, we have prepared a practical assignment designed to assess both technical proficiency and problem-solving skills, focusing on tasks relevant to our project.

Assignment Overview:

Project: Emotional Sentiment Analysis and Adaptive Response System

Objective: Develop a prototype chatbot capable of identifying the emotional state of a user based on a conversation and responding with culturally relevant and empathetic responses. This exercise will help assess your ability to work with NLP models and adapt their output to user needs in a culturally sensitive context.

Tasks:

1. Data Collection and Preprocessing

- a. Find and prepare a dataset containing conversational data that includes emotional indicators. Annotate this data for emotional states such as sadness, anxiety, stress, and joy.
- b. Clean the data to handle missing values, standardize text (e.g., removing stop words, punctuation), and prepare it for training purposes.

2. Model Training

- a. Train a language model using an existing pre-trained model (preferably a version of LLaMA) to perform sentiment analysis on the dataset prepared.
- b. Fine-tune the model to classify emotional states with an emphasis on cultural context and linguistic nuances.

3. Response Generation

- a. Create a response generation system that produces empathetic responses based on the identified emotional state. The responses should

be tailored to cultural and contextual cues, reflecting appropriate support for each emotional state.

4. Integration and Testing

- a. Integrate the sentiment analysis module with the response generation module to create a cohesive chatbot prototype.
- b. Test the chatbot prototype with a set of simulated conversations and document the results.
- c. Analyse the chatbot's performance, including how accurately it identifies emotional states and how well its responses match the context and cultural expectations.

5. Documentation

- a. Prepare documentation summarizing your approach, data preparation techniques, model choices, challenges faced, and results.
- b. Include a reflection section on how you would further improve the model's ability to understand cultural sensitivities.

Submission Requirements:

- Provide the code, dataset (or dataset link), and a report that includes the results and discussion on how you approached the problem.
- The submission should be in a GitHub repository, which will allow us to view both the code and the documentation conveniently.
- Send all the Submission documents and links to dhilipj@jayadhi.com
- For any queries contact dhilipj@jayadhi.com

Evaluation Criteria:

- **Technical Skills:** How well the model performs sentiment analysis, and the quality of the chatbot's responses.
- **Problem-Solving:** Ability to tackle data preprocessing challenges and adapt a pre-trained model to the task.
- **Creativity and Cultural Sensitivity:** Quality of generated responses, with emphasis on cultural adaptation and empathy.
- **Code Quality and Documentation:** Clear, maintainable code, along with thorough and understandable documentation.

Internship: INR 5,000 to 15,000 stipend, (Students and recent graduates only)

Salary Range: INR 2,00,000 to INR 18,00,000 per annum depending on experience and expertise and the quality of the assignment submitted.

Why Join Us?

- **Make a Meaningful Impact:** Contribute to developing technology that will directly improve health outcomes for underserved communities.
- **Salary Increment or cash prize:** Every Six months your skills will be evaluated; an increment or cash prize will be awarded for deserved candidates.
- **Innovate with Cutting-edge Tools:** Be part of the team training LLaMA 405B, one of the largest language models, and work on innovative AI/ML, AR/VR solutions that push the boundaries of digital health support.
- **Diverse and Inclusive Team Environment:** Work alongside a multidisciplinary team that includes technologists, mental health professionals, and community leaders, committed to creating solutions that are both effective and culturally sensitive.
- **Career Growth and Learning:** Gain hands-on experience with advanced technologies in AI, VR, and cloud infrastructure. We provide opportunities for learning, mentorship, and growth, making this the ideal place to take your career to the next level.
- **Flexibility and Support:** We offer flexible working arrangements, a supportive environment, and an emphasis on work-life balance, ensuring you can bring your best self to work every day.