

# **Project Contributions**

## **MindSpark: AI Psychiatric Assistant**

### **Team Members:**

Mutaiba Mohsin 2021-CS-63

Ammad Aslam 2021-CS-67

Uswa Arif 2021-CS-77

Fatima Muskan 2021-CS-78

### **Supervisor:**

**Dr. Syed Khaldoon Khurshid**

- **Mutaiba Mohsin (AI/ML Expert)**

1. Data Collection: Extracted YouTube transcripts and converted them into JSON format in collaboration with Fatima and Uswa.
2. Fine-tuning GPT-2: Worked on training and optimizing the GPT-2 model with Fatima.
3. Model Development: Converted GPT-2 into a Simple RAG model, added summarization, and developed a treatment diagnosis system using newly created CSV data, in collaboration with Fatima.
4. Hybrid RAG Model: Developed a Hybrid RAG model using Groq API, utilizing the same datasets previous models.
5. DeepSeek Model: Implemented DeepSeek model using prompt logic instead of fine-tuning on dataset.
6. Model Documentation & Deployment: Created all documentation and videos related to model development and deployed all the models on huggingface.

- **Fatima Muskan (AI Expert)**

1. Data Collection: Worked on JSON and CSV dataset creation.
2. Fine-tuning GPT-2: Assisted in training and optimizing GPT-2 with Mutaiba.
3. Conversational RAG Model: Worked on converting Simple RAG to a conversational model using Llama DeepSeek API from OpenRouter (an initial step not used in the final project).

- **Ammad Aslam (Full Stack Developer)**

1. Frontend Development: Developed frontend pages using React alongside Uswa.
2. Backend Development: Created a complete backend using Node.js.
3. Backend Deployment: Deploy the backend on AWS lambda.
4. Database Management: Integrated MongoDB Atlas with Backend.
5. Model Integration: Integrated AI Models with the Frontend.

- **Uswa Arif (Full Stack Developer)**

1. Frontend Development: Worked on Frontend Pages with Ammad.
2. Frontend Deployment: Deployed Frontend on Vercel.
3. PDF Generation: Developed Backend Functionality for generating patient reports as PDFs.