Internship Work Report (Gaurav Kumar)

Intern Name: Gaurav Kumar

Program: MCA - Data Science

Session : 2023 - 2025

Student ID: 23146007

Organization: CAIR Lab, Institute of AI, Dev Sanskriti Vishwavidyalaya (DSVV), Haridwar, Uttarakhand

Role: Project & Research Intern

Type: On-Site

Duration: January 10 - May 31, 2025

Projects

1. **Computer Vision-based OCR for Sanskrit Texts**
   - Research about different OCR frameworks for ancient Sanskrit manuscripts.
   - Enhance the OCR work flow, add features to process whole PDF and, optimize the memory storage and make a user interface.

2. **Structured Data Extraction from Historical Books using LLMs - HistoAI**

   - Building a scalable AI-based system to **extract structured data** from **large historical books** in PDF format.
   - Developing a web application that leverages a structured data extraction tool to transform historical data into a well-organized, structured format for efficient analysis and utilization.
   - Enabled real-time progress tracking, secure login, and downloadable Excel outputs.
   - Contributing to the web application development to fulfill stakeholder requirements and project objectives for integration of all the three tools **(Data Extraction, Chatbot and Data Visualization)**.

3. **AyurScan:** Mobile App for Ayurvedic Tongue Data Collection

   - Developed a Flutter app for therapists to capture tongue images and patient details for data collection to future work for the tongue diagnosis.

- Integrated a machine learning model to verify whether the captured image contains a tongue, ensuring clean and authentic data collection.

4. **Web Application :** Platform for **MP Zone Jyoti Kalash Rath Yatra** program **data organization**.

   - Developed and deployed a web application to organize and present data for the MP Zone Jyoti Kalash Rath Yatra program. The application extracts program details from Google Sheets and categorizes the information by upzone, district, and tehsil.
   - It also provides **overall summaries** and **upzone-wise** reports for efficient data visualization and management.

5. **Audio Transcription**

   - A prototype application for Hindi audio transcription with speaker diarization.

Research Achievements

1. **AI Tongue Diagnosis:** Expert System with LLMs for abdominal disease detection through Mobile application
   - Developed an AI-expert hybrid framework for tongue-based disease detection using Ayurvedic principles through mobile application.
   - Submitted a research paper in collaboration with **DCAM** (Acupressure) and **CAIR members** under the guidance of **Neel Sir,** based on the AI and Ayurvedic hybrid framework to the **Mind Brain Consciousness Conference – 2025**, organized by the Indian Knowledge System and Mental Health Applications (IKSMHA) Centre on 3 to 7 June 2025. .

2. **Participated in Conference**
   - **Participated** in the **conference** to present the research paper titled "*AI Tongue Diagnosis :* ***Expert System with LLMs for Abdominal Disease detection through Mobile app***" at the Mind Brain Consciousness conference.