Project List

A1. Project Title: AI-Powered Legal Document Summarization

Project Description:
This project aims to build an **AI-driven legal document summarizer** that extracts key information from long contracts, case files, and legal texts. The system will use **Retrieval-Augmented Generation (RAG)** and **fine-tuned LLMs** to summarize documents while maintaining legal accuracy and compliance.

A2. Project Title: Intelligent Resume Screening System

Project Description:
An **automated resume screening tool** that processes and ranks job applicants based on job descriptions. The system integrates **Named Entity Recognition (NER), TF-IDF, and LLM embeddings** to evaluate candidate skills, experience, and suitability for specific roles.

A3. Project Title: Customer Support Chatbot with Sentiment Analysis

Project Description:
A **multi-turn chatbot** capable of handling **customer service inquiries** with sentiment-aware responses. The model will integrate **LLM-based conversational AI** with a **real-time sentiment analysis engine** to adjust responses based on customer emotions.

A4. Project Title: AI-Powered Medical Transcription and Diagnosis Suggestion

Project Description:
A **speech-to-text system** that transcribes medical consultations and provides **automated medical report generation**. The model will integrate **LLMs fine-tuned on medical data** with **ICD-10 medical coding** for diagnosis suggestions.

A5. Project Title: AI-Driven Fake News Detection System

Project Description:
An NLP system that detects **misinformation and fake news** by analyzing news articles, social media posts, and blog entries. The model will use **LLM embeddings, fact-checking databases, and linguistic anomaly detection**.

A6. Project Title: AI-Powered Financial Document Analysis

Project Description:
A **financial NLP system** that extracts insights from earnings reports, SEC filings, and balance sheets. The project will implement **LLMs with OCR integration** to analyze key financial trends and predict stock market movements.

A7. Project Title: Multilingual Speech-to-Text for Low-Resource Languages

Project Description:
A **speech recognition system** designed for **low-resource languages**, allowing real-time transcription and translation. The model will leverage **Whisper, Wav2Vec2, and fine-tuned LLMs** to improve transcription quality.

A8. Project Title: Legal Chatbot for Contract Analysis

Project Description:
A **legal NLP chatbot** that provides **contract clause explanations** and highlights risky terms in agreements. The model will be fine-tuned using **pre-trained LLMs on legal datasets** and integrated with **document analysis tools**.

A9. Project Title: Personalized AI Tutor for Language Learning

Project Description:
An **AI-driven language learning assistant** that provides **personalized lessons, grammar correction, and pronunciation feedback**. The system will use **LLMs combined with text-to-speech (TTS) and automated speech recognition (ASR)**.

A10. Project Title: Automated Customer Feedback Analysis

Project Description:
An NLP pipeline that automatically **categorizes and summarizes customer reviews** across multiple platforms. The system will implement **aspect-based sentiment analysis** and **topic modeling (LDA, BERT embeddings)**.

A11. Project Title: AI-Powered Legal Citation Checker

Project Description:
A legal NLP tool that verifies **legal case citations and references** within legal documents. The system will integrate **LLMs trained on legal corpora** to flag incorrect citations and suggest proper references.

A12. Project Title: Intelligent Email Categorization System

Project Description:
An AI-based email assistant that **classifies, prioritizes, and summarizes** emails. The system will utilize **LLMs, BERT-based classifiers, and vector embeddings** to automate email sorting and response suggestions.

A13. Project Title: AI-Powered Academic Paper Summarizer

Project Description:
A system that **summarizes research papers** and provides **contextual Q&A**. The tool will integrate **LLMs fine-tuned on academic corpora, citation tracking, and knowledge graph embeddings**.

A14. Project Title: Automatic Meeting Notes Generation

Project Description:
An NLP application that **transcribes and summarizes meeting discussions** in real time. The system will use **ASR models (Whisper, Wav2Vec2), summarization LLMs, and keyword extraction algorithms**.

A15. Project Title: AI-Powered Sentiment-Based Stock Market Analysis

Project Description:
A system that analyzes **financial news, earnings calls, and social media trends** to predict stock movements. The model will integrate **LLMs with financial sentiment analysis and event-based stock movement prediction**.

A16. Project Title: AI-Powered E-commerce Product Description Generator

Project Description:
A tool that **automatically generates compelling product descriptions** based on **product specifications, customer reviews, and competitor analysis**. The system will use **LLMs fine-tuned on e-commerce datasets**.

A17. Project Title: Personalized AI News Aggregator

Project Description:
An NLP system that curates and summarizes **news articles based on user interests**. The tool will integrate **LLMs with recommendation algorithms and real-time news scrapers**.

A18. Project Title: AI-Powered Legal Document Redaction

Project Description:
A system that **automatically redacts confidential information** from legal and business documents using **Named Entity Recognition (NER) and fine-tuned LLMs**.

A19. Project Title: AI-Powered Code Documentation Generator

Project Description:
A tool that **automatically generates technical documentation** from source code. The system will integrate **code analysis models (CodeT5, Codex) and natural language generation (NLG) techniques**.

A20. Project Title: Intelligent Voice Command Processing for IoT Devices

Project Description:
An NLP-based voice assistant that **processes and understands commands** for **smart home and IoT devices**. The system will integrate **speech recognition, intent classification, and LLM-based command execution**.

B1. Project Title: AI-Powered Web News Scraper & Summarizer

Project Description:
This project develops an **automated news scraper** that collects articles from multiple news sources and **summarizes key insights** using NLP. The system will implement **web scraping techniques (Scrapy, BeautifulSoup, Newspaper3k)** combined with **LLM-based text summarization (BART, Pegasus, T5, or GPT)**.

B2. Project Title: Social Media Sentiment Analysis Scraper

Project Description:
A **real-time social media monitoring tool** that scrapes **Twitter, Reddit, and Facebook** posts related to specific topics, brands, or events. The system will use **API-based data collection (Twitter API, PRAW for Reddit, Facebook Graph API)** and **sentiment analysis models (VADER, DistilBERT, LLM embeddings)**.

B3. Project Title: AI-Based Job Listing Aggregator

Project Description:
A **job scraping system** that collects job postings from platforms like **LinkedIn, Indeed, Glassdoor** and extracts key details such as **job title, salary, requirements, and skills** using **Named Entity Recognition (NER) and keyword extraction techniques**.

B4. Project Title: AI-Powered Product Price & Review Tracker

Project Description:
A web scraper that tracks **e-commerce product prices and customer reviews** from platforms like **Amazon, eBay, Shopee, Lazada**. The system will extract **product specifications, review sentiment, and price trends** using NLP-based **aspect-based sentiment analysis (ABSA)**.

B5. Project Title: Automatic Research Paper Scraper & Categorization

Project Description:
A system that scrapes **academic papers from arXiv, Google Scholar, Semantic Scholar** and categorizes them based on **research fields** using **topic modeling (LDA, BERTopic, GPT embeddings)**.

B6. Project Title: Web-Based Financial News & Stock Market Trend Analyzer

Project Description:
A financial **news scraper** that collects headlines and articles from sources like **Bloomberg, Reuters, Yahoo Finance** and analyzes their **impact on stock trends** using NLP-based **financial sentiment analysis**.

B7. Project Title: AI-Driven Real Estate Listing Scraper

Project Description:
A **real estate data scraper** that gathers **property listings, prices, and agent details** from websites like **Zillow, Realtor.com, Redfin**. The system uses **NER and document parsing** to extract structured information.

B8. Project Title: Automatic Legal Case & Regulation Scraper

Project Description:
A legal document scraper that collects **court rulings, regulations, and legal opinions** from sources like **government websites and legal databases**. The system applies **legal text processing and classification techniques**.

B9. Project Title: Online Forum & Community Discussion Scraper

Project Description:
An NLP-based scraper that collects and analyzes **forum discussions** from platforms like **Stack Overflow, Quora, Reddit** to extract insights on trending topics, common problems, and knowledge gaps.

B10. Project Title: AI-Powered Wikipedia Knowledge Extractor

Project Description:
A **Wikipedia data scraper** that extracts structured knowledge from **Wikipedia articles**, **summarizes content**, and **builds knowledge graphs** using **Named Entity Recognition (NER) and Knowledge Graph embeddings**.

B11. Project Title: AI-Powered Fake News & Misinformation Detector

Project Description:
A **news aggregator and fact-checking system** that scrapes **online articles** and evaluates their credibility using **NLP-based fact verification models (FactCheckGPT, FEVER dataset fine-tuned models)**.

B12. Project Title: Automatic Podcast & YouTube Transcript Analyzer

Project Description:
A **speech-to-text NLP system** that collects and processes **YouTube video transcripts and podcast recordings**, applying **LLM-based summarization and topic modeling**.

B13. Project Title: E-Commerce Competitor Analysis Scraper

Project Description:
A system that scrapes **competitor product descriptions, customer reviews, and pricing data** from various online stores and applies **sentiment analysis and keyword extraction**.

B14. Project Title: AI-Powered Investment Report Extractor

Project Description:
A **financial report scraping system** that extracts insights from **SEC filings (10-K, 10-Q), earnings call transcripts, and company reports**, applying **NLP-based financial text processing**.

B15. Project Title: NLP-Based Government Policy & Public Opinion Tracker

Project Description:
An NLP system that scrapes **government policy documents, press releases, and public comments** to analyze **citizen feedback and sentiment** on various legislative topics.

B16. Project Title: AI-Driven Online Shopping Trend Analyzer

Project Description:
A system that scrapes **customer reviews and shopping trends** from **e-commerce sites, blogs, and forums** to predict **consumer behavior**.

B17. Project Title: AI-Powered Patent & Innovation Insights Scraper

Project Description:
A system that scrapes **patent databases (USPTO, Google Patents, WIPO)** and applies **LLM-based text summarization** to extract innovation insights.

B18. Project Title: Online Health Forum & Symptom Analysis Scraper

Project Description:
A system that scrapes **medical forums, health blogs, and Q&A platforms** to identify **common symptoms, diseases, and treatment trends** using **NLP-based entity recognition**.

B19. Project Title: NLP-Based Movie & Entertainment Review Aggregator

Project Description:
A **movie and entertainment review scraper** that collects reviews from **IMDb, Rotten Tomatoes, Metacritic**, performing **aspect-based sentiment analysis**.

B20. Project Title: AI-Powered Sports News & Player Performance Tracker

Project Description:
A sports analytics system that scrapes **sports news, player interviews, and game statistics** to generate insights on **player performance trends and fan sentiment**.

C1. Project Title: AI-Powered Automated Essay Scoring System

Project Description:
This system automatically evaluates and grades **student essays** based on grammar, coherence, and content relevance. Using **LLMs (GPT, BERT), syntactic analysis, and text similarity metrics**, the system provides **constructive feedback** and **automated scoring**.

C2. Project Title: AI-Powered Personalized Learning Assistant

Project Description:
An **AI-based tutor** that provides **personalized learning paths** for students by analyzing their

strengths, weaknesses, and learning habits. The system adapts content using **NLP-based question answering and interactive lesson generation**.

C3. Project Title: AI-Driven Automatic Lecture Transcription & Summarization

Project Description:
A system that **transcribes and summarizes lectures in real-time** using **speech-to-text (Whisper, Wav2Vec2) and LLM-based summarization models (T5, Pegasus, BART)** to help students **review key concepts efficiently**.

C4. Project Title: NLP-Based Plagiarism Detection & Paraphrasing Assistant

Project Description:
A tool that checks for **plagiarism in student assignments and research papers** using **semantic similarity models (Sentence-BERT, TF-IDF, cosine similarity)**. It also suggests **ethical paraphrasing techniques**.

C5. Project Title: AI-Powered Grammar & Writing Enhancement Tool

Project Description:
An **intelligent writing assistant** that corrects grammar, improves sentence structure, and provides **context-aware vocabulary suggestions**. The system integrates **transformer-based models (GPT, T5, or Grammarly-like LLMs)**.

C6. Project Title: Smart Textbook Summarization System

Project Description:
A tool that generates **summarized versions of textbooks and study materials** for students. The system employs **text summarization models (BART, Pegasus, LLM fine-tuning)** to create **concise and structured summaries**.

C7. Project Title: AI-Based Question Generator for Exam Preparation

Project Description:
A system that automatically **generates practice questions** from textbooks, articles, or notes. The NLP model identifies **key topics and concepts** to create **multiple-choice, fill-in-the-blank, and short-answer questions**.

C8. Project Title: Conversational AI Tutor for Language Learning

Project Description:
An **interactive chatbot** that helps students practice **foreign languages** through **conversational AI**.

The system includes **speech recognition, text-to-speech (TTS), and NLP-based language correction**.

C9. Project Title: AI-Powered Academic Research Paper Recommender

Project Description:
A system that suggests **relevant research papers, books, and articles** based on students' academic interests. The model uses **semantic search (FAISS, ChromaDB, BERT embeddings) and topic modeling (LDA, BERTopic)**.

C10. Project Title: AI-Driven Automatic Lecture Translation System

Project Description:
A real-time **lecture translation tool** that converts **spoken or written content into multiple languages**. The system utilizes **Neural Machine Translation (NMT) models (MarianMT, M2M-100, OpenNMT)**.

C11. Project Title: AI-Powered Student Performance Prediction System

Project Description:
A predictive analytics system that forecasts **student academic performance** based on past grades, attendance, and behavioral patterns. It integrates **NLP for analyzing teacher feedback and student sentiment from essays**.

C12. Project Title: Intelligent Flashcard Generation System

Project Description:
An NLP-based system that **automatically creates digital flashcards** from textbooks and lecture notes using **NER (Named Entity Recognition) and keyphrase extraction**.

C13. Project Title: AI-Powered Course Recommendation System

Project Description:
A system that recommends **personalized courses and learning resources** based on students' previous coursework, skills, and interests using **NLP-based knowledge graph embeddings**.

C14. Project Title: AI-Based Automated Feedback System for Teachers

Project Description:
A system that analyzes **teacher feedback on assignments and classroom participation** to generate **personalized progress reports** for students, using **sentiment analysis and NLP summarization techniques**.

C15. Project Title: AI-Powered Knowledge Graph for Educational Content

Project Description:
An NLP-based **knowledge graph system** that maps **educational topics, concepts, and relationships**, helping students **visualize complex subjects** and explore connected knowledge.

C16. Project Title: Intelligent Student Sentiment Analysis System

Project Description:
A system that analyzes **student feedback, online discussions, and course reviews** to understand their **opinions on educational content**, using **aspect-based sentiment analysis (ABSA)**.

C17. Project Title: AI-Based Career Guidance Chatbot

Project Description:
A chatbot that **guides students on career choices**, answering questions about **job prospects, required skills, and educational pathways** using **LLM-based career knowledge retrieval**.

C18. Project Title: NLP-Based Automated Student Attendance System

Project Description:
A system that records **student attendance using speech recognition**, extracting **key details from roll calls and classroom interactions**.

C19. Project Title: AI-Powered Digital Library Search & Summarization System

Project Description:
An NLP-powered **digital library system** that helps students find **relevant books and articles**, summarizing content and providing **contextual recommendations**.

C20. Project Title: AI-Powered Learning Material Accessibility System

Project Description:
A system that **converts educational materials into multiple formats** (audio, braille, simplified text) using **OCR, text-to-speech (TTS), and NLP-based simplification models**.