🤖 AI Mini Projects

Undergraduate AI Course - Group Project Assignment

📅 Due Date
Next Monday

📊 Total Score
20 Marks

⏰ Duration
1 Week

👥 Group Size
Up to 6

📋 Project Requirements

Essential Guidelines

- ✓ **Team Collaboration:** Work in groups of up to 6 students with equal participation from all members
- ✓ **Dataset Selection:** Use public datasets from Kaggle, UCI ML Repository, or government portals
- ✓ **Implementation Focus:** Apply appropriate AI/ML models relevant to your chosen problem

- ✓ **Documentation:** Maintain clear code comments and comprehensive reporting
- ✓ **Innovation:** Demonstrate creativity in approach and problem-solving

📦 Deliverables

What to Submit by Next Monday:

📄 **Technical Report (PDF)**
Problem statement, dataset description, model implementation, results analysis, challenges, and lessons learned

💻 **Source Code**
Jupyter Notebook (.ipynb) or Python files (.py) with clean, well-commented code

🎤 **Class Presentation**
5-minute maximum presentation showcasing your project and key findings

📈 Grading Criteria

Evaluation Components (Total: 20 Marks)

💡 **Creativity & Effort**	📊 **Dataset Relevance**	⚙️ **Code Functionality**
Innovation in approach		

Appropriate data selection

Working implementation

📋 **Results Analysis**
Interpretation quality

🤝 **Team Participation**
Equal contribution

🎯 **Presentation Quality**
Clear communication

🚀 **Choose ONE project from the exciting options below and bring your AI vision to life!**

🎯 Available Project Topics

1

🚗 Accident Severity Prediction

Predict road accident severity using weather conditions, lighting, and road type data to enhance traffic safety systems.

2

📰 Fake News Detection

Use NLP techniques to classify news articles as authentic or fake, combating misinformation in digital media.

3

📧 Spam Email Classifier

Build intelligent email filtering system using content analysis and metadata to identify spam messages.

4

💰 Loan Default Prediction

Predict borrower default risk using demographic and financial features to assist lending decisions.

5

🎓 Student Performance Prediction

Forecast student grades based on lifestyle, study habits, and demographic data for educational insights.

6

📱 Customer Churn Prediction

Identify customers likely to leave services using behavioral patterns and account data analytics.

7

🏥 Disease Diagnosis (Diabetes)

Predict diabetes likelihood using health metrics and patient data for early medical intervention.

8

📄 Job Resume Classifier

Automatically categorize resumes into job fields using natural language processing techniques.

9

📈 Retail Sales Forecasting

Predict future product sales using historical data to optimize inventory and business planning.

10

🌾 Crop Recommendation System

Suggest optimal crops based on soil conditions and weather data for agricultural optimization.

11

😊 Sentiment Analysis of Tweets

Classify social media sentiment as positive, negative, or neutral using text mining techniques.

12

🎬 Movie Recommendation System

Suggest movies based on user preferences and ratings using collaborative filtering algorithms.

13

🌬️ Air Quality Index Prediction

Forecast air quality using environmental sensor data to support public health initiatives.

14

🎵 Music Genre Classification

Classify songs into genres using audio features and metadata for music streaming platforms.

15

💵 Banknote Authentication

Detect counterfeit currency using statistical features and machine learning verification systems.

16

🏠 House Price Prediction

Estimate property values based on location, features, and market data for real estate analysis.

17

🛍️ E-commerce Product Categorization

Automatically classify products using descriptions and features for online marketplace organization.

18

🤖 Resume Screening Bot

Build AI-powered recruitment tool to screen resumes based on keywords and skill matching.

19

🔥 Fire Detection in Forests

Predict forest fire risk using environmental data including temperature, wind, and humidity.

20

💬 AI Chatbot for College Helpdesk

Design intelligent chatbot to answer student queries and provide campus information support.

🎯 Ready to Build the Future?

Choose your project, form your team, and let's create some amazing AI solutions together!