Artificial Intelligence
Group Project

Learning Outcomes:

At the end of this project, students should be able to:

1. Identify and formulate a real-world problem that can be addressed using Artificial Intelligence techniques.
2. Analyze different AI methods and justify the selection of the most suitable approach for the chosen problem.
3. Design and implement an AI-based prototype or simulation that applies appropriate algorithms, tools, and datasets.
4. Demonstrate teamwork, responsibility, and ethical conduct in collaborative project development.

Project Requirements

1. Project Scope and Objectives
   - Clearly define the problem statement and its significance. The problem must relate to UTP environment and scenario.
   - Identify specific objectives and outline expected outcomes
2. Data
   - Identify and describe data sources (public datasets, sensors, APIs, surveys, etc.).
   - Specify data size, format, and features required.
   - Include data preprocessing tasks: cleaning, normalization, feature selection, handling missing values, etc.
   - Define ethical and privacy considerations (e.g., anonymization, consent, bias handling).
3. AI Model or method
   - Specify the type of model or method.
   - Define input and output variables.
   - Include baseline model for comparison.
4. System / Application
   - Data input and preprocessing pipeline
   - Model training and evaluation
   - Visualization of results (dashboard, charts)
   - User interface

Project Deliverables

1. One page project proposal (Due: Week 8): **10%**
2. Final Report – Extend the proposal, include Data collection and preprocessing (if any), Model development and evaluation. (Due: Week 12): **60%**
3. Presentation - System prototype. (Week 12): **30%**

Project Ideas

1. Chatbot for UTP Student Service
2. Autonomous Driving (Scooter) System in UTP Academic building environment
3. Personalized Learning Platform
4. AI-Powered Chatbot for Mental Health Support
5. Fake Campus News Detection System
6. AI-Powered Smart Classroom Automation
7. AI-Driven Personalised Fitness Coach for University students
8. Food Restaurant Recommendation System with chatbot
9. Internship Recommendation System using Fuzzy Logic
10. Scholarship Eligibility System

4. AI-Powered Chatbot for Mental Health Support