

Project Initialization and Planning Phase

Date	02 November 2024
Team ID	739730
Project Title	Figurative Intelligence: Machine Learning for Simile and Metaphor Detection
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

Project Overview	
Objective	The goal of this project is to develop a machine learning (ML) model that can recognize and interpret similes and metaphors in text. Figurative language, especially similes and metaphors, is often challenging for machines to understand because it requires context and often involves non-literal meanings. Building this model will enhance natural language processing (NLP) applications, like chatbots and virtual assistants, to better understand human language.
Problem Statement	
Description	Similes and metaphors are widely used in language to convey emotions, descriptions, and deeper meanings. Traditional language models struggle to interpret such figurative expressions because they typically rely on literal interpretations of words. This limitation affects applications where nuanced understanding is essential, such as sentiment analysis, chatbot conversation, and content creation. The project aims to address this gap by creating a model that can detect and interpret these expressions.
Proposed Solution	
Approach	The project proposes a machine learning solution that leverages a transformer-based NLP model (such as BERT or GPT) trained specifically to recognize figurative language patterns. The model will be trained on a dataset labeled with examples of similes and metaphors and should be able to: <ul style="list-style-type: none"> - Detect similes and metaphors within sentences. - Interpret or replace figurative language with literal meanings to improve understanding.

	- Generate examples or rephrase figurative language, allowing for better communication and comprehension.
--	---

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	e.g., 2 x NVIDIA V100 GPUs
Memory	RAM specifications	e.g., 8 GB
Storage	Disk space for data, models, and logs	e.g., 1 TB SSD
Software		
Frameworks	Python frameworks, Tensorflow	e.g., Flask
Libraries	Additional libraries	e.g., scikit-learn, pandas, numpy
Development Environment	IDE, version control	e.g., Jupyter Notebook, visual studio
Data		
Data	Source, size, format	e.g., Kaggle dataset, 15 KB, CSV format