# A black background with white text AI-generated content may be incorrect.

# Capstone Project Proposal

## Title: **“Daily News Categorization and Trend Detection Using Machine Learning”**

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Github Repository:<https://github.com/blertazenunii/Capstone-Project>

## 1. Background and Motivation

In the digital age, people are exposed to an overwhelming volume of news from various sources. It becomes increasingly difficult to stay informed about important updates across multiple domains like politics, sports, or entertainment. Automating the process of organizing and summarizing the news can help readers focus on what matters most.

This project aims to create a system that collects daily news articles, automatically classifies them into predefined categories, and highlights the top 2–3 trending topics within each category. It combines basic principles of data science, machine learning, and natural language processing to provide a meaningful summary of current events.

## 2. Problem Statement

The primary goal of this project is to: Collect current news articles from online sources, categorize each article into a predefined topic group (e.g., politics, sports, music, technology) then detect the top 2–3 trending topics of the day in each category and presenting this information in a simple and readable format, including links to the full articles.

## 3. Objectives

* Build a system that can process and organize daily news articles.
* Automatically assign each article to a relevant news category.
* Identify and summarize trending topics in each category.
* Provide clickable links so users can read the original news content.

## 4. Methodology Overview

The system will follow these general steps:

1. **News Collection**: Automatically fetch daily news articles using online APIs or other public sources.
2. **Text Classification**: Use machine learning techniques to categorize news articles into topics like politics, sports, music, etc.
3. **Trend Detection**: Apply clustering or topic modeling techniques to group related articles and extract top daily trends per category.
4. **Presentation**: Design a user-friendly interface or dashboard to display categorized trends and article links.

Technologies that may be used include:

* Programming Language: Python
* Core Concepts: Natural Language Processing (NLP), Machine Learning
* Tools/APIs: News APIs (e.g., NewsAPI), Scikit-learn or transformer-based models for classification and topic modeling

## 5. Expected Outcome

By the end of the project, the system will be able to:

* Automatically collect and process news articles from the current day
* Organize them by category
* Identify the most discussed topics per category
* Display a short summary and relevant headlines with links to original news sources

This system could help users quickly gain an overview of what's trending in the world across different areas of interest.