

Big Data - 6CS030

Week 6 - Proposal Presentation

For **week 6** of the Big Data module, there will be **no lecture class**. Instead, during **tutorial** and **workshop** you are expected to present your coursework proposal using **slides within 7 - 10 minutes**. Also there will be a QA session of around **3-5 minutes** after the presentation.

IMPORTANT REMINDER

- If working in pairs, **only one member should deliver the presentation**. However, both members **must actively participate** during the Q&A session.
- Both members should also **clearly define and specify the division of workload** for the final coursework **after the presentation**.

Your proposal slides **should cover** the following key aspects :

1. **Domain and Research Title** - Clearly define your **research area** and the **exact title** of your study.

Example :

- ***Domain/Area :*** Natural Language Processing.
- ***Research Title :*** Enhancing Sentiment Analysis in Social Media using Hybrid Deep Learning Models.

2. **Problem Statement** - Explain the **problem** you aim to **address** with your research.

Example :

Social media platforms generate vast amounts of text data daily, making sentiment Analysis as a crucial task for businesses and researchers. Traditional machine learning models struggle with understanding contextual meaning, sarcasm, and slang in user-generated content. This study aims to improve sentiment classification accuracy by integrating transformer-based deep learning models with conventional sentiment analysis techniques.

3. **Research Question** - Your research question should be the **central query** your research seeks to **answer**. It should serve as the **foundation of your research** by defining what you want to explore, analyze, or solve.

Example :

How does the use of deep learning improve sentiment analysis accuracy in social media data ?

4. **Base paper & comparison** - Find and mention at least **one base paper** similar to the paper you are planning to write. Also, explain how your research will **differ from** or **build upon** it.

Also mention :

- a. The **title** and **authors** of the base paper.
- b. The **dataset** used in the paper and its **source**.
- c. A **comparison** between the base paper and your proposed research (e.g improvements, differences in approach (tools and methodology).

Note :

- **Base Paper First → Then Dataset :**
 - If you find a strong base paper first, you can look for a dataset that aligns with it.
 - This ensures your research builds upon existing work effectively.
- **Dataset First → Then Base Paper**
 - If you already have a dataset, you can search for papers that have used the same or similar dataset.
 - This helps in comparing methodologies and improving upon past research.

Either approach is valid.

5. **Dataset & Source** - Provide details (size, shape, features) of the dataset you have chosen for your research along with the **dataset link**. You may use the **same dataset** as the base paper (if available) or a **similar dataset** that aligns with it. Clearly mention its source and relevant details.
6. **Aim & Objectives** - Clearly define the **aim** of your research and break it down into **specific objectives**.

Example :

Aim :

To develop a deep learning model that enhances sentiment analysis accuracy in social media data by integrating transformer-based architectures.

Objectives :

1. To collect and preprocess social media data.
2. To design and implement an LSTM-based deep learning model.
3. To enhance model performance.
4. To evaluate the model's performance.
5. To compare the proposed model.
6. To analyze the impact of model architecture and preprocessing steps.
7. To provide insights and recommendations for future improvements.