Instruction for the Research Article (Data Mining Project)

1. **Dataset Requirements**:

* Collect your own dataset with a minimum of **1,000 records/data objects**.
* Publicly available datasets (e.g., UCI, Kaggle) are **not allowed**.
* Use techniques such as **web scraping** or other data collection methods.

1. **Article Format**:  
   Your research article must follow the **ACM (Association for Computing Machinery) format**. An attached sample ACM format template is provided for your reference.
2. **Sections of the Article**:  
   The article must include the following sections:

* **Title**: A clear and concise title that reflects the essence of your study.
* **Abstract**: A brief summary of your research objectives, methods, and findings.
* **Introduction (with Related Work)**:
  + Background information on the topic.
  + Clearly state the research problem and gaps.
  + Review related studies and connect them to your research.
* **Objectives**: Define the specific objectives of your study.
* You are required to create at least three objectives (example):
  + What is the performance of **Algorithm X** when evaluated using the following performance measures?  
    a) Performance Metric 1  
    b) Performance Metric 2  
    c) Performance Metric 3
  + What is the performance of **Algorithm Y** when evaluated using the following performance measures?  
    a) Performance Metric 1  
    b) Performance Metric 2  
    c) Performance Metric 3
  + What is the performance of **Algorithm Z** when evaluated using the following performance measures?  
    a) Performance Metric 1  
    b) Performance Metric 2  
    c) Performance Metric 3
  + Which among the three algorithms performs best in **classifying** \_\_\_\_\_\_\_\_\_\_\_\_?
* **Methodology**: Describe your dataset, data collection process, preprocessing steps, and data mining techniques. Explain how you processed and analyzed the data.
* **Results and Discussion**: Present your findings clearly. Discuss insights, their implications, and their relevance to your objectives.
* **Conclusion**: Summarize your results, their significance, and possible future directions.
* **References**: Cite all sources in the ACM reference style.

1. **Submission**:

* Submit your article as a **PDF** **and doc** format according to the ACM template.
* The deadline for submission is the last day of the class.

1. **Evaluation Criteria**:

Refer to the **rubric** provided for detailed expectations and assessment criteria.

1. **Ethics:**   
   Students are required to submit a **Turnitin report** that includes:

* **Similarity Index and AI Report** to ensure that the research has an **acceptable level of AI-generated content and Similarity Index**. The acceptable threshold is **less than 20%**. Submissions exceeding this threshold will not be accepted.

Rubric for Research Article

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Criteria | Excellent (5) | Proficient (4) | Satisfactory (3) | Needs Improvement (2) | Unsatisfactory (1) | Weight |
| Abstract | Provides a concise, comprehensive summary of objectives, methods, and findings. | Summarizes key points effectively but misses minor details. | Covers general objectives and methods but lacks clarity or key results. | Vague or incomplete summary of objectives and findings. | Abstract is missing or unclear. | 10% |
| Introduction (with Related Work) | Clearly presents the background, research problem, gaps, and significance of the study. Effectively integrates related studies and connects them to the research. | Provides background, research problem, and significance but misses minor details or depth. Related studies are included but not well integrated. | States the research problem but lacks clarity on gaps or significance. Mentions some related studies without clear connection to the research. | Vague or incomplete background, research problem, or related studies. | Introduction is missing or irrelevant. | 20% |
| Objectives | Clearly and succinctly defines the objectives of the research, aligning with the identified problems and gaps. | Objectives are well-stated but could be more precise or aligned. | Objectives are included but lack clarity or completeness. | Objectives are vague or do not align with the research problem. | Objectives are missing or irrelevant. | 10% |
| Methodology | Clearly explains data collection, preprocessing, and mining techniques; well-organized and detailed. | Provides a good explanation but lacks minor details or clarity. | General explanation with insufficient details on methods. | Vague or incomplete methodology, missing significant steps. | Methodology section is missing or incoherent. | 20% |
| Results and Discussion | Thorough analysis with meaningful insights; results are well-explained and logically connected to objectives. | |  | | --- | | Good analysis with clear results; some insights are underdeveloped. |  |  | | --- | |  | | Results are presented but lack detailed discussion or connection to objectives. | Minimal analysis and unclear results or insights. | Results are poorly presented or missing. | 20% |
| Conclusion | Effectively summarizes findings, significance, and future directions. | Summarizes findings adequately but lacks some depth. | Provides a general conclusion but misses key elements. | Minimal conclusion that does not adequately summarize findings. | Conclusion is missing or irrelevant. | 10% |
| References | Properly cited, relevant, and extensive references in a consistent format. | Mostly proper citations with minor formatting errors. | Few references with inconsistencies in format. | Minimal references, many inconsistencies in format. | No references or improperly formatted. | 5% |
| Presentation | Engaging, well-organized, and thoroughly covers all major aspects of the research. | Organized and clear, covering most aspects of the research. | Adequate presentation but lacks depth or clarity in some areas. | Unorganized and unclear, missing major aspects. | Presentation is missing or incoherent. | 5% |