**UNIVERSITY OF PUTHISASTRA**

**MASTER OF SCIENCE IN INFORMATION TECHNOLOGY (MSIT)**

**Artificial Intelligence**

Academic Year: 2023-2024

**Project Proposal**

| Project Title | *Sentiment Analysis for Social Media Post* |
| --- | --- |
| Research Topic | *Sentiment Analysis* |
| Project Objective | **Project Objective:**  The objective of this project is to investigate and implement sentiment analysis techniques in order to learn more about the opinions and emotional tones presented in textual data. In the current digital era, sentiment analysis has grown in importance because of the amount of content created by users on social media. Our goal is to develop a sentiment analysis model that is both accurate and efficient in classifying and understanding sentiments collected from a variety of social media platforms.  **Problem statement:**  Traditional methods of sentiment analysis are often time-consuming and lack the ability to capture nuanced emotions. Therefore, there is a need for automated sentiment analysis tools that can process textual data swiftly and accurately, enabling users to understand public opinion, customer feedback, and emotional trends in various contexts.  **Recommended solution to solve this problem**  The key components of the solution   1. Model Selection and Training    1. Naïve Bayes    2. K-Nearest Neighbour    3. Random Forest    4. BaggingClassifier 2. Application    1. User interface for posting comments    2. API Integration and Algorithms Training    3. Sentiment Analysis Report |
| Project Scopes | + In Scope   * *Collect, Clean, and Preparing Data like comments, likes, dislikes etc ...* * *Training models on the preprocessed dataset* * *Evaluating and implementing various sentiment analysis models* * *Assessing model performance using accuracy, precision, scoring* * *Comparing models to identify the most effective approach* * *Deploy sentiment analysis model* * *Integrating the sentiment analysis model into a user-friendly application* * *User able to login and comment on web interface*   + Out of Scope   * *Deep analysis of multimedia content* * *Detailed user manuals for application usage* * *Audio or video-based sentiment analysis* |
| Project Milestones | Here are the high-level milestones.   | Milestones | Start Date | End Date | Owner | | --- | --- | --- | --- | | *AI Code/App development* | *03, Feb 2024* | *03, Mar 2024* | *Bunthoeurn, Sithvothy* | | *Slide pack creation* | *17, Mar 2024* | *20, Mar 2024* | *Davy* | | *Project Paper creation* | *03, Mar 2024* | *20, Mar 2024* | *All Members* | |
| Group Members | 1. KONG Bunthoeurn (Team leader)  2. KONG Vendavy (Member)  3. KIV Sithvothy (Member) |
| References | 1. *Dataset and sample:* [*https://www.kaggle.com/code/tarkkaanko/amazon-review-sentiment-analysis*](https://www.kaggle.com/code/tarkkaanko/amazon-review-sentiment-analysis) 2. *Paper:* [*https://www.academia.edu/download/71992836/ijca2017916005.pdf*](https://www.academia.edu/download/71992836/ijca2017916005.pdf) |

**Note**:

* Assessment will be followed by the project rubric as described in the Project Guideline.
* This proposal will be checked by lecturer and feedback will be given to adjust the research topic if it is not acceptable for the final project.
* Research topics could be same across the group, but references/sources need to be different. Copyright is prohibited.
* Students can write this proposal by using their preferable language; either Khmer or English.