

Project 1 (Short Version)

Chapter 1: Introduction

Artificial Intelligence is widely used to analyze social media data. This project focuses on Arabic sentiment analysis using deep learning to classify comments into positive and negative classes. The objectives are to review AI techniques, compare CNN, LSTM and RCNN, and identify suitable approaches.

Chapter 2: Background

Artificial Intelligence includes Machine Learning and Deep Learning. Sentiment Analysis is an NLP task that determines opinion polarity. CNN extracts local features from text, while LSTM captures long-term dependencies. Word Embedding converts words into numerical vectors for deep learning models.

Chapter 3: Related Work

Previous studies showed that deep learning generally outperforms traditional machine learning for Arabic sentiment analysis. CNN, LSTM and RCNN have all been applied, with LSTM often achieving the highest accuracy. These studies motivate using deep learning for Arabic social media sentiment classification.

References

- Kim (2014). Convolutional Neural Networks for Sentence Classification.
- Heikal et al. (2018). Arabic Sentiment Analysis using Deep Learning.