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Assignment 2

CSC3066 Deep Learning (Fake News Detection)

Introduction

In an era marked by the rapid dissemination of information on social media platforms like Twitter, our assignment focuses on developing machine learning models to automatically detect fake news within Twitter posts. As data scientists, our objective is to provide our client with a scalable and accurate solution to mitigate the risks associated with the spread of misinformation. By leveraging artificial neural networks (ANN) and word embedding models, we aim to equip our client with a robust system capable of classifying tweets as either genuine or false. This report documents our journey through implementing and evaluating various ANN architectures, including Multilayer Perceptron (MLP), Convolutional Neural Network (CNN), and Recurrent Neural Network (RNN) models, exploring techniques and settings to enhance model performance and provide actionable insights to combat the proliferation of fake news effectively.

Baseline models

Baseline models performed relatively well, for each model a set of baseline hyperparameters were set and no pre-processing on the data was performed for the purpose of providing a skelenton model for better analysis of the performance of the models and allow for looking into what techniques could be used to

Analysis and reporting of the results from Task One

Final outcome of project