Text Classification with Transformer Models in Climate Domain

Abstract

Since their introduction in 2017, transformer models have rapidly become the leading approach for text processing, enabling solutions to a wide range of tasks that were previously too difficult or impractical to address.

This thesis investigates methods for text classification using transformer-based models through an example of a climate-related classification task as a practical case study. It explores the challenges that arise when applying these models in real-world scenarios, such as limited computational resources, data quality issues, and model alignment, and discusses potential strategies to overcome them.

In addition, the thesis provides an overview of key transformer architectures and highlights several techniques that have significantly enhanced their performance and reasoning capabilities over the last decade of research.