

ABSTRACT

Data entry when uploading documents in the Electronic Signature System within the CAATIS Center of Excellence environment is done manually. This process is prone to errors and is time-consuming, thus hindering document management. This study develops an intelligent document processing feature based on Large Language Models (LLMs) using a waterfall model, which includes requirement specifications, design, and implementation. This feature is then evaluated to measure the performance of the intelligent document processing system. For processing, the Llama 3.2 model is run locally to ensure data privacy. The developed intelligent document processing feature is capable of automatically extracting information from digital text documents. The developed system is capable of automatically extracting key information such as titles, document reference numbers, descriptions, and names from documents. The feature achieved an F1 score of 0.8974 for title extraction, 0.9688 for document reference number extraction, 0.8767 for document summary, and a recall of 0.9112 for name extraction. In addition, the average document processing time is 5.15 seconds. The results of this evaluation meet all predefined success metrics and quality requirements..

Keywords: *LLM, NLP, electronic signature, intelligent document processing, information retrieval*