

INTISARI

Penelitian ini mengembangkan *chatbot* berbasis *Natural Language Processing (NLP)* menggunakan algoritma *Long Short-Term Memory (LSTM)* untuk memberikan konsultasi terkait permasalahan kulit. Tahapan penelitian meliputi pengumpulan data melalui wawancara dengan dokter kulit dan sumber *daring*, pra-pemrosesan data dengan *tokenization* dan *padding*, pembangunan serta pelatihan model *LSTM*, dan evaluasi model menggunakan metrik akurasi, *precision*, *recall*, dan *F1-score*. Hasil pengujian menunjukkan akurasi model sebesar 99.46% dengan nilai *precision*, *recall*, dan *F1-score* berbobot masing-masing 0.99, mencerminkan performa yang sangat baik. Namun, performa pada kelas minoritas menurun akibat keterbatasan data. *Chatbot* ini terbukti efektif dalam memberikan solusi berbasis teks, tetapi masih dapat dikembangkan melalui penambahan data, integrasi *speech recognition* atau *image recognition*, serta pengujian pada data nyata untuk meningkatkan generalisasi dan kegunaan sistem.

Kata Kunci: *Chatbot*, *Natural Language Processing (NLP)*, *Long Short-Term Memory (LSTM)*, permasalahan kulit, akurasi.

ABSTRACT

This study develops a chatbot based on Natural Language Processing (NLP) using the Long Short-Term Memory (LSTM) algorithm to provide consultations on skin problems. The research stages include data collection through interviews with dermatologists and online sources, data preprocessing with tokenization and padding, model development and training using LSTM, and model evaluation based on accuracy, precision, recall, and F1-score metrics. The test results show a model accuracy of 99.46%, with weighted precision, recall, and F1-score values of 0.99, reflecting excellent performance. However, performance on minority classes decreases due to data limitations. This chatbot has proven effective in providing text-based solutions but can still be improved by adding more data, integrating speech recognition or image recognition, and testing on real-world data to enhance system generalization and usability.

Keywords: Chatbot, Natural Language Processing (NLP), Long Short-Term Memory (LSTM), skin problems, accuracy.