

IMPLEMENTASI *CHATBOT* BERBASIS NLP PADA *WEBSITE*

STUDI KASUS: KLINIK UNIQKIDS AUTISMA

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ABSTRAK

Keterbatasan tenaga profesional di Klinik Uniqkids Autisma menyebabkan tingginya beban komunikasi yang bersifat repetitif serta terbatasnya layanan di luar jam operasional. Penelitian ini bertujuan mengembangkan *chatbot* berbasis *Natural Language Processing* (NLP) untuk memberikan informasi secara otomatis, cepat, dan tepat terkait gangguan tumbuh kembang seperti Autism Spectrum Disorder (ASD). Model *IndoBERT* digunakan dengan pendekatan klasifikasi *intent*. Pengembangan sistem mengikuti metode *waterfall* yang mencakup analisis kebutuhan, perancangan, implementasi, dan pengujian. *Chatbot* diintegrasikan ke *website* klinik menggunakan *Flask* untuk *backend* dan HTML, CSS, serta *JavaScript* untuk *frontend*. *Dataset* diperluas dengan teknik *Easy Data Augmentation* (EDA) guna meningkatkan variasi pola *input*. Pengujian dilakukan dengan *Blackbox Testing*, *Whitebox Testing*, dan *User Acceptance Testing* (UAT). Hasil evaluasi menunjukkan akurasi klasifikasi *intent* sebesar 98,89% dan tingkat kepuasan pengguna sebesar 80,75%. *Chatbot* ini mampu menyediakan layanan informasi yang responsif selama 24 jam, mengurangi beban staf, dan meningkatkan efisiensi layanan.

Kata Kunci: *Chatbot, Natural Language Processing, IndoBERT, Autism Spectrum Disorder, Klinik Uniqkids, Intent Classification, Website.*

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ABSTRACT

The limited number of professionals at Uniqkids Autism Clinic has led to a high volume of repetitive communication and restricted service availability outside operational hours. This study aims to develop a chatbot based on Natural Language Processing (NLP) to provide fast, accurate, and automated information related to developmental disorders such as Autism Spectrum Disorder (ASD). The IndoBERT model is used with an intent classification approach. The system was developed using the waterfall method, covering requirement analysis, system design, implementation, and testing. The chatbot is integrated into the clinic's website using Flask for the backend and HTML, CSS, and JavaScript for the frontend. The dataset was expanded using the Easy Data Augmentation (EDA) technique to increase input pattern variations. Testing was conducted through Blackbox Testing, Whitebox Testing, and User Acceptance Testing (UAT). Evaluation results show an intent classification accuracy of 98.89% and a user satisfaction rate of 80.75%. The chatbot effectively provides responsive 24-hour information services, reduces staff workload, and improves service efficiency..

Keywords: *Chatbot, Natural Language Processing, IndoBERT, Autism Spectrum Disorder, Uniqkids Clinic, Intent Classification, Website.*