

Language translator tool to convert English to Hindi

A PROJECT REPORT

Submitted by,

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Under the guidance of,

Dr. LEELAMBIKA K V

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING WITH DATA SCIENCE

At



PRESIDENCY UNIVERSITY

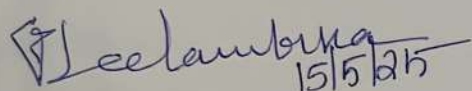
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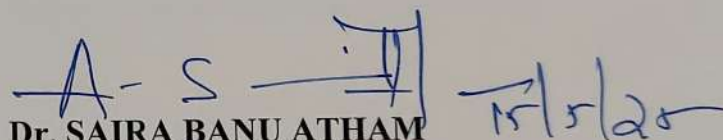
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CERTIFICATE

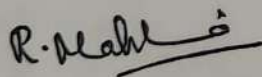
This is to certify that the Project report “**Language translator tool to convert English to Hindi**” being submitted by “A Rohith Kumar, Mahesh Gowda S, Parimi Ushoday and Divya D” bearing roll number(s) “20211CSD0167, 20211CSD0104, 20211CSD0004 and 20211CSD0100” in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering with Data Science is a Bonafide work carried out under my supervision.


15/5/25

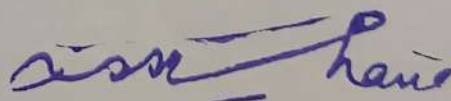
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DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **Language translator tool to convert English to Hindi** in partial fulfillment for the award of Degree of **Bachelor of Technology in Computer Science and Engineering with Data Science**, is a record of our own investigations carried under the guidance of **Dr. Leelambika K.V, Assistant Professor, Senior Scale, Presidency School of Computer Science and Engineering, Presidency University, Bengaluru.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

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ABSTRACT

The increasing need for seamless multilingual communication has highlighted the importance of reliable and intelligent translation tools. This project presents the development of an English-to-Hindi Language Translator Tool that utilizes **Neural Machine Translation (NMT)** to provide contextually accurate, fluent, and grammatically sound translations. Designed with flexibility and accessibility in mind, the system supports both **text and speech input**, allowing users to interact through typing or audio for real-time translation. The tool is built using a modular architecture, with a **Flask-based backend** for processing translation requests and a **React frontend** that offers a responsive and user-friendly interface. It incorporates speech recognition and text-to-speech synthesis to deliver a complete audio translation experience. Compared to traditional translation tools, the system demonstrates improved performance in handling complex sentence structures, idiomatic expressions, and syntactic differences between English and Hindi. Through literature review and comparative analysis, the tool addresses existing gaps such as lack of contextual understanding and limited input format support. It also offers scalable deployment options via API integration and cloud compatibility. The outcomes indicate enhanced user satisfaction, higher translation accuracy, and real-world applicability across domains like education, communication, and content localization.

Index Terms — Neural Machine Translation (NMT), English-to-Hindi Translation, Speech-to-Text, Text- to-Speech, React.js, Flask, Audio Translation, Multilingual Communication, Context-Aware Translation, Artificial Intelligence (AI), Natural Language Processing (NLP), Language Translator Tool, Real-Time Translation, User Interface (UI), API Integration

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We thank our family and friends for the strong support and inspiration they have provided us in bringing out this project.

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