

# KITAGAPai AI-Powered Education Platform

This project aims to enhance education in Indonesia through the innovative AI-Driven KITAGAPai Platform. The Platform is designed to tackle the pressing issues in the Indonesian education sector:

- Providing accessible information about schools and education institution
- Enhancing the decision-making process for parents.
- Utilizing AI to bridge gaps in educational data and connect the pieces together

# AI-Powered Features of the KITAGAPai Platform

## AI-Powered Search

The platform offers an AI-powered search function that goes beyond simple keyword matching, providing users with relevant and contextual results.

## Conversational AI Chatbot

A conversational AI chatbot, designed specifically for Bahasa Indonesia, will assist users in navigating the platform and finding information.

## Deep Data-Driven Insights

The platform will provide robust, continuously updated data-driven insights to help users make informed decisions about their educational options. Including school comparison and deep analysis.

## Challenge: AI Development in a Digital-First Indonesia

### Information Scarcity & Fragmentation

The Indonesian education sector faces significant challenges, including **scarcity of reliable information** where many schools lack comprehensive data, and **fragmentation in school data**, making information often scattered and hard to access.

### Characteristics of Indonesian NLP

Extreme linguistic diversity with over **700 local languages** influencing Bahasa Indonesia. Rampant with **slang and non-standard** forms, **complicates model training**. Despite a large speaker base, Indonesian is a **low-resource language** in terms of readily available, high-quality annotated datasets. **Underrepresentation in Global Research**.

# Core Strengths

## **Unmatched Academic**

**Excellence & Reputation:** Institut Teknologi Bandung (ITB) is renowned for its **academic excellence** and strong **reputation** in the field of education.

## **Pioneering AI and NLP Research &**

**Development:** ITB is at the forefront of **AI** and **Natural Language Processing (NLP)** research, providing a solid foundation for the **KITAGAPai Platform**.

## **Scalability & Future Growth**

**(Sustained Innovation):** KITAGAPai platform can be a springboard for other AI-driven services and expansion into other markets, supported by strong talent pool of ITB graduates.

# Technology Stack:

The technology stack of the KitagapAI Platform includes:

- **Embedding Models** : Fine tuned for Bahasa Indonesia, to help the system understand the meaning behind words and phrases, used for semantic search, intent recognition
- **Large Language Models (LLMs)**: Fine-tuned for Bahasa Indonesia, to allow the system to generate complete, helpful answers in natural, conversational Bahasa Indonesia.
- **Robust & Scalable API** : Main interface through which applications interact with the AI services, including querying LLMs, sending text for embedding, or retrieving analytics.
- **AI Dashboard & Control Panel** : To make the system deterministic. A centralized interface for managing, monitoring, and analyzing AI system performance and operations.
- **Machine Learning Ops (MLOps)** : To deploy and maintain ML systems in production reliably and efficiently. Periodic fine-tuning of LLMs and embeddings models using updated datasets to adapt to evolving language use and domains.

# Architecture

