SmartHack 2025

# VoiceLearn+

## Presented by RAVS

AI-powered learning platform for early readers and writers

# THE PROBLEM

Children in early grades struggle with:

- Reading aloud with correct pronunciation
- Writing what they hear (dictation)
- Getting personalized feedback in real time

Teachers spend hours identifying patterns and giving individual feedback manually.

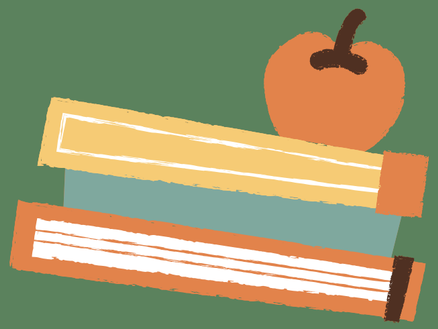
Result: Slow learning progress and lack of personalized attention.

# THE SOLUTION

VoiceLearn+ uses AI to create a personalized reading and writing coach for each student. It includes:

1. 🎙️ Read Aloud Mode – student reads a sentence; AI checks pronunciation accuracy and highlights mistakes.
2. ✍️ Listen & Write Mode – student listens and types what they hear; AI checks spelling and context accuracy.
3. 📊 Teacher Dashboard – shows progress, accuracy scores, and personalized teaching insights.

# HOW IT WORKS



For Students:

- Speech recognition (STT) → compare with target text
- Accuracy scoring using text similarity (Levenshtein distance)
- Highlighted feedback + correct pronunciation playback

For Teachers:

- AI report generated automatically with insights like:
- "Student often confuses write/right. Recommend homophone exercises."

Tech stack:

- FastAPI · React · PostgreSQL · Faster Whisper / GPT-4o-mini-tts · Agent feedback engine (powered by OpenAI)

# ETHICS

Does not permanently store students' voices

Shows how AI can be used as an educational assistant, not a teacher replacement

Reduces learning inequalities between urban and rural areas by offering free AI vocal practice

# THE IMPACT

For Students

- Builds confidence through instant feedback
- Improves reading and listening comprehension
- Makes learning fun and gamified 🎉

For Teachers

- Saves time with automated analysis
- Enables data-driven teaching decisions

# NEXT STEPS

1. Running real-time classroom tests ⏱️
2. Multilingual support 🌍
3. Gamified learning paths 🎮

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# THANK YOU