

AI-Powered Prescription Verification Platform

A system that reads prescriptions, detects risks, recommends age-appropriate dosages, and suggests safer alternatives in real time

Presented By:





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Introduction

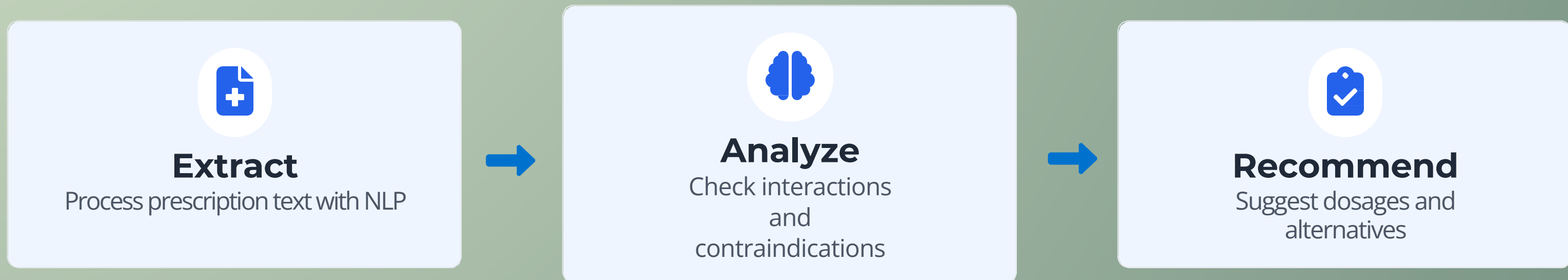
- ⚠ **Problem:** Medication errors and contraindications lead to adverse events and hospital readmissions
- ⚙ **Why now:** Increasing prescription volume and limited clinical time
- 🎯 **Our aim:** Quick, automated verification to improve safety and efficiency **Target users:** Doctors,
🕒 pharmacists, telemedicine platforms, patients

Problem & Motivation


-  Prescriptions are often unstructured or handwritten → misinterpretation risk
-  Manual interaction checks are time-consuming and inconsistent
-  Existing tools mostly give alerts — rarely provide dose personalization or alternatives
-  Result: delayed care, increased liability, and patient harm

Solution Overview

-  **NLP** extracts drug name, strength, frequency, route from free text
-  **AI** checks drug-drug interactions and contraindications against trusted datasets
-  Recommends **age- and condition-specific dosages** and dose adjustments
-  Suggests **safer alternative medications** when interactions/contraindications exist
-  Provides a **clinician-friendly UI + REST APIs** for integration



Architecture (High Level)

 **Frontend:** React (MERN)

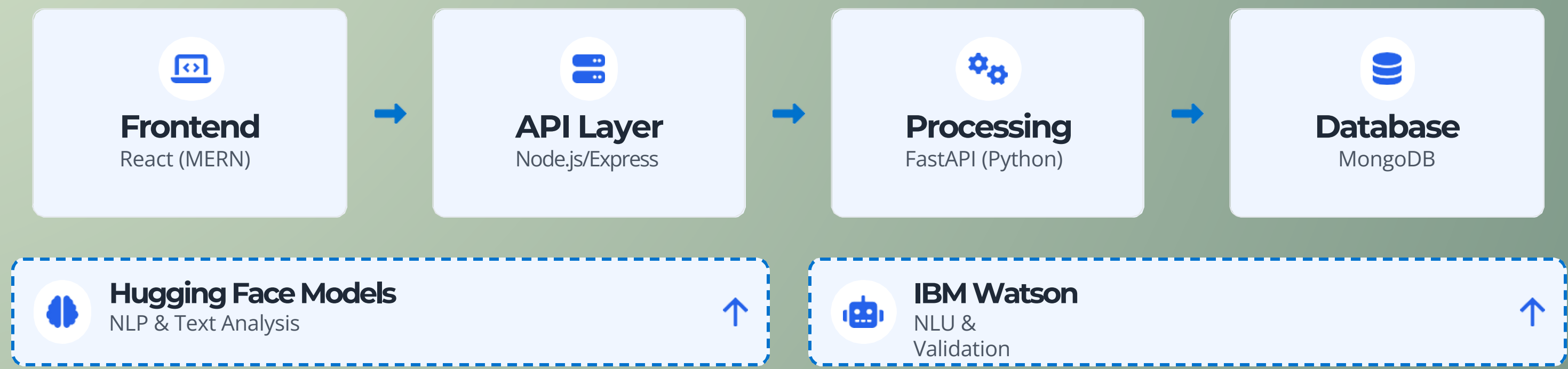
API layer: Node.js  Express

 **Models/APIs:** Hugging Face & Watson

Database: MongoDB 

 **Processing:** FastAPI (Python)

 **Deployment:** Cloud-ready REST endpoints



External AI services connect to Processing layer for NLP tasks and validation

Novelty & Impact




Novelty

- 💡 Goes beyond alerts: adds age-specific dosages and safe alternatives
- ✓ Multi-source validation (trusted drug datasets + modern NLP) for higher accuracy

Impact

- 🛡 Improves patient safety and clinician workflow efficiency
- 🏥 SaaS/Integration potential for hospitals, pharmacies, telemedicine
- 🌐 Scalable to low-resource settings and multi-language support

Future Scope & Conclusion

-  **Near term**
Pilot with clinics, clinical validation, FHIR/EHR integration
-  **Mid term**
Mobile app, multi-language support, pediatric & geriatric rule sets
-  **Long term**
Regulatory compliance, large-scale deployments, continual learning from clinical feedback

Call to action

Seeking pilot partners, clinical data collaborators, and feedback



Thank You