Slide 1: Introduction

"Good [morning/afternoon], everyone.
Healthcare today faces a critical challenge—incorrect dosages and harmful drug interactions that put patient safety at risk.
Our project, AI-Powered Medical Prescription Verification, addresses this issue by using Natural Language Processing and APIs to extract accurate drug information. We built a robust system with a FastAPI backend and a Streamlit frontend, ensuring both precision and ease of use for doctors, patients, and healthcare providers."

Slide 2: Architecture

"Our system architecture is designed to be both intelligent and user-friendly.
First, a prescription is uploaded through the Streamlit interface.
The backend, powered by FastAPI, processes the request and applies NLP models from Hugging Face and IBM Watson to extract structured drug data.
This data is then cross-verified against a drug interaction database to identify harmful combinations.
Finally, the system checks age-specific dosages, recommends safer alternatives, and presents results in real-time on the frontend."

Slide 3: Expected Solutions

"Our solution delivers five key outcomes:

Drug Interaction Detection – flagging harmful combinations before they cause harm.

Age-Specific Dosage Recommendations – tailoring prescriptions to the patient's profile.

Alternative Medication Suggestions – providing safer or equally effective options.

NLP-Based Data Extraction – ensuring prescriptions are digitized and structured accurately.

User-Friendly Interface – enabling quick, real-time interactions for doctors and patients."

Slide 4: Solution

"Our solution integrates advanced technologies to make prescription verification practical and efficient.
We use drug databases for accuracy, Hugging Face NLP models for extracting data from prescriptions, and IBM Watson APIs for intelligent recommendations.
The backend runs on FastAPI, ensuring speed and reliability, while Streamlit provides an intuitive, responsive interface for end users."

Slide 5: Technologies & Tools

"The strength of our system lies in the tools we selected.
We built the core in Python, leveraging IBM Watson for AI-driven recommendations and Hugging Face for NLP-based drug data extraction.
FastAPI powers the backend APIs, and Streamlit delivers an interactive and responsive frontend.
Together, these technologies ensure both performance and usability."

Slide 6: Future Scope

"This project has strong potential for expansion.
In the future, we aim to integrate with Electronic Health Records, enable voice-based prescription inputs for doctors, and develop a mobile application for

patient use.
Additionally, we see opportunities in AI-driven personalized treatment plans and real-time integration with pharmacy databases—bringing us closer to truly personalized and error-free healthcare."

Slide 7: Conclusion

"In conclusion, our project enhances patient safety by reducing prescription errors through real-time, AI-driven support.
By combining NLP, AI models, and drug interaction databases, we provide a scalable, reliable solution ready for healthcare adoption.
This is not just a technological solution, but a step towards safer and smarter healthcare delivery."