

Medical Coding AI Prototype: Technical Requirements

This document outlines the software dependencies ([requirements.txt](#)) and recommended hardware specifications for developing the Medical Coding AI hackathon prototype.

1. [requirements.txt](#) File

This file lists the Python packages and their specific versions required to set up the development environment. It ensures that all team members use the same dependencies, preventing compatibility issues.

```
# Core NLP and ML libraries
transformers==4.30.2 # Or a recent stable version compatible with
BioClinicalBERT/ROBERTa
torch==2.0.1         # PyTorch, recommended for Hugging Face (or
tensorflow==2.13.0 if you prefer TF)
scikit-learn==1.3.0  # For any utility functions like data splitting, simple
metrics

# Web Framework for API
Flask==2.3.2          # If using Flask; alternatively: fastapi==0.100.0,
uvicorn==0.23.2 for FastAPI

# UI Development
streamlit==1.25.0     # If using Streamlit; alternatively: gradio==3.40.0 for
Gradio

# General Utilities
pandas==2.0.3         # For easy data handling (e.g., reading/writing CSV for
simulated data)
numpy==1.25.1         # Often a dependency of other libraries, good to include
explicitly

# Optional: For robust NER if using spaCy (uncomment if used)
# spacy==3.6.0
# spacy-transformers==1.2.5 # If integrating spaCy with Hugging Face models
# en_core_web_sm           # You'd typically download this via `python -m spacy
download en_core_web_sm`
```