🩺 Diabetes Prediction App – Setup Guide

This project is a full-stack Diabetes Prediction System consisting of:  
  
\* 🧠 Machine Learning Model served via MLflow  
\* 💥️ Frontend built with React  
\* 🖙 Backend built with Django (REST API) that fetches the model from MLflow and makes predictions

# 🗂️ Project Structure

diabetes-prediction-app/  
├── frontend/ # React App (User Interface)  
├── backend/ # Django Backend API  
└── README.md # Setup and Installation Instructions

# 🔧 Requirements

## 1. General Tools

\* Python 3.8+  
\* Node.js 18+ & npm or yarn  
\* pip / pipenv / poetry (your choice)  
\* MLflow installed  
\* Git

# ✅ Step-by-Step Setup Instructions

## 1⃣ Clone the Repository

git clone https://github.com/Kabeer786786/diabetes-prediction.git  
cd diabetes-prediction

## 2⃣ Setup MLflow

### 📦 Install MLflow

pip install mlflow

### 🚀 Start MLflow UI

mlflow ui

MLflow UI will be available at: http://127.0.0.1:5000

Ensure your model is already logged in MLflow with URI:

models:/Diabetes-Prediction-Classifier@challenger

## 3⃣ Backend Setup (Django)

cd backend  
  
pip install -r requirements.txt  
  
python manage.py runserver

Default: http://127.0.0.1:8000

## 4⃣ Frontend Setup (React)

cd ../frontend  
  
npm install  
  
npm run dev

Frontend will run at: http://localhost:3000

# 📄 Input & Prediction Flow

1. User fills the form in React app  
2. React sends a POST request to the Django backend  
3. Django loads model from MLflow and returns the prediction  
4. React displays the prediction to the user

# ✅ Example cURL Request

curl -X POST http://127.0.0.1:8000/patients/create/ \  
 -H "Content-Type: application/json" \  
 -d '{  
 "config\_id": "12345",  
 "patientName": "John Doe",  
 "pregnancies": 2,  
 "glucose": 140,  
 "bloodPressure": 82,  
 "skinThickness": 35,  
 "insulin": 130,  
 "bmi": 33.6,  
 "dpf": 0.627,  
 "age": 45  
 }'

# 🛠 Troubleshooting

\* \*\*MLflow not found:\*\* Make sure MLflow UI is running at the specified port  
\* \*\*CORS Errors:\*\* Ensure Django has `django-cors-headers` installed and configured  
\* \*\*Model not loading:\*\* Check MLflow URI