**AI Immigration Advisor Deployment Manual**

*Team 5 – Borderless AI*

**Overview**

* **Project Name**: AI Immigration Advisor
* **Purpose**: To assist international students and related stakeholders by simplifying US immigration requirements.
* **Key Components**:
  + Frontend: React application built with HTML5, CSS, and JavaScript.
  + Backend: NodeJS server interfacing with a Flask-based ML API.
  + Database: Firebase for data storage.

**Prerequisites**

* **Access Requirements**:
  + GitHub access to the repository.
* **Installed Software**:
  + Node.js (v16.x or later).
  + Python (v3.8 or later) with pip.
    - Libraries:
      * Fastapi
      * Pydantic
      * Pdfplumber
      * Sandbox
      * Logging
      * Sentence\_transformers
      * Pinecone
  + Firebase CLI.
* **System Requirements**:
  + Operating System:
    - Windows 10 or newer.
    - MacOS X 10.15 or newer.
    - Linux-based (Ubuntu 20.04 recommended).
  + Memory: 8 GB RAM or higher.
  + Storage: Minimum 10 GB free.
* **Cloud Infrastructure**:
  + Configure Firebase project settings.
  + GPU-enabled instance (optional, for faster ML inference).

**Deployment Steps**

1. **Clone the GitHub repository:**

Terminal commands:

git clone <https://github.com/htmw/2024F-borderless.ai.git>  
cd 2024F-borderless.ai

1. **Setup Frontend**
2. Navigate to the frontend/ directory.
3. Install dependencies:

Terminal commands:

npm install

1. Build the React application:

Terminal commands:

npm run build

1. **Setup Backend**
2. Navigate to the backend/ directory.
3. Install Python dependencies:

Terminal commands:

pip install -r requirements.txt

1. **Setup Firebase**
2. Login to Firebase CLI:

Terminal commands:

firebase login

1. Deploy database configurations:

Terminal commands:

firebase deploy

1. **Deploy Machine Learning API**
2. Navigate to the ml\_api/ directory.
3. Run the Flask API:

Terminal commands:

python app.py

**Testing and Validation**

* Verify API endpoints via Postman or curl.
* Check frontend deployment by navigating to the specified URL.
* Validate Firebase connections and ML API responses.