

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.
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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).
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Deployment Steps

a. Clone the GitHub repository:

Terminal commands:

```
git clone https://github.com/htmhw/2024F-borderless.ai.git  
cd 2024F-borderless.ai
```

b. Setup Frontend

1. Navigate to the frontend/ directory.
2. Install dependencies:

Terminal commands:

```
npm install
```

3. Build the React application:

Terminal commands:

```
npm run build
```

c. Setup Backend

1. Navigate to the backend/ directory.
2. Install Python dependencies:

Terminal commands:

```
pip install -r requirements.txt
```

d. Setup Firebase

1. Login to Firebase CLI:

Terminal commands:

firebase login

2. Deploy database configurations:

Terminal commands:

firebase deploy

e. Deploy Machine Learning API

1. Navigate to the ml_api/ directory.
2. 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.