## Project Setup and Usage Guide

This guide will walk you through setting up the Fake News Detector project, from installing dependencies to running the application.

### 1. Prerequisites

* **Python 3.7+** and pip
* **Node.js and npm** (or yarn)
* **Google Cloud Platform (GCP) Account**: To get API keys for Gemini, Fact Check, and Programmable Search.

### 2. Backend Setup

1. **Navigate to the backend directory:**  
   cd backend
2. **Create and activate a virtual environment (recommended):**  
   python -m venv venv  
   source venv/bin/activate # On Windows, use `venv\Scripts\activate`
3. Install Python dependencies:  
   Create a requirements.txt file with the following content:  
   fastapi  
   uvicorn  
   pydantic  
   requests  
   beautifulsoup4  
   python-dotenv  
   google-generativeai  
   numpy  
     
   Then run:  
   pip install -r requirements.txt
4. Create the .env file:  
   In the backend directory, create a file named .env and add your API keys.  
   GEMINI\_API\_KEY="YOUR\_GEMINI\_API\_KEY"  
   GOOGLE\_API\_KEY="YOUR\_GOOGLE\_CLOUD\_API\_KEY" # Can be the same as Gemini key  
   PROGRAMMABLE\_SEARCH\_ENGINE\_ID="YOUR\_CSE\_ID"

### 3. Google Programmable Search Engine (CSE) Setup

This is a crucial step to ensure your search results come from trusted sources.

1. Go to the [Programmable Search Engine control panel](https://programmablesearchengine.google.com/).
2. Click **"Add"** to create a new search engine.
3. Give it a name (e.g., "Trusted News Sources").
4. In the **"What to search?"** section, select **"Search specific sites or pages"**.
5. Add the domains of news and fact-checking websites you trust. For example:
   * bbc.com
   * reuters.com
   * apnews.com
   * snopes.com
   * politifact.com
   * factcheck.org
   * altnews.in
6. Click **"Create"**.
7. After creation, go to the **"Setup"** page for your new search engine.
8. You will find the **"Search engine ID"**. Copy this ID and paste it into your .env file as the value for PROGRAMMABLE\_SEARCH\_ENGINE\_ID.

### 4. Frontend Setup

1. **Navigate to the frontend directory:**  
   cd ../frontend
2. **Install Node.js dependencies:**  
   npm install

### 5. Running the Application

You need to run the backend and frontend servers simultaneously in two separate terminal windows.

1. **Start the Backend Server:**
   * Open a terminal, navigate to the backend directory, and activate the virtual environment.
   * Run the FastAPI server:  
     uvicorn main:app --reload
   * The backend will be running at http://localhost:8000.
2. **Start the Frontend Development Server:**
   * Open a second terminal and navigate to the frontend directory.
   * Run the React app:  
     npm start
   * The frontend will open in your browser at http://localhost:3000.

You can now use the application by pasting text or a URL into the input box and clicking "Analyze".