AI Judge - Installation & Setup Guide

Quick Start (Windows)

Automated Setup

```
# Run the setup script
setup.bat
```

Manual Setup

1. Backend Setup

```
cd backend

# Create virtual environment
python -m venv venv

# Activate virtual environment
venv\Scripts\activate

# Install dependencies
pip install -r requirements.txt
```

2. Frontend Setup

```
cd frontend

# Install Node.js dependencies
npm install
```

3. Environment Variables

Backend (.env in backend folder):

```
GROQ_API_KEY=your_groq_api_key_here
```

Frontend (.env.local in frontend folder):

```
NEXT_PUBLIC_API_URL=http://localhost:8000
```

4. Get Your Free Groq API Key

1. Visit: https://console.groq.com/
2. Sign up for free account
3. Go to API Keys section
4. Create a new API key
5. Copy and paste into backend/.env

Running the Application

Option 1: Using Start Script

```
# Windows
start.bat

# Linux/Mac
./start.sh
```

Option 2: Manual Start

Terminal 1 - Backend:

```
cd backend
venv\Scripts\activate
python app.py
```

Terminal 2 - Frontend:

```
cd frontend
npm run dev
```

Access the Application

- **Frontend:** http://localhost:3000
- **Backend API:** http://localhost:8000
- **API Docs:** http://localhost:8000/docs

Troubleshooting

Frontend Issues

Error: Cannot find module 'react'

```
cd frontend
npm install
```

Port 3000 already in use

```
# Kill the process using port 3000
npx kill-port 3000
# Or change port in package.json
```

Backend Issues

Error: No module named 'flask'

```
cd backend
venv\Scripts\activate
pip install -r requirements.txt
```

Port 8000 already in use

```
# Windows: Find and kill process
netstat -ano | findstr :8000
taskkill /PID <PID> /F
```

API Key Issues

Error: GROQ_API_KEY not found

1. Create backend/.env file
2. Add: GROQ_API_KEY=your_actual_key
3. Restart backend server

Development Tools

Backend Testing

```
cd backend
pytest tests/
```

Frontend Linting

```
cd frontend
npm run lint
```

Building for Production

```
# Frontend
cd frontend
npm run build

# Backend
cd backend
gunicorn -w 4 -b 0.0.0.0:8000 app:app
```

System Requirements

- **Python:** 3.8 or higher
- **Node.js:** 18.0 or higher
- **RAM:** Minimum 4GB
- **OS:** Windows 10+, macOS 10.15+, Ubuntu 20.04+

Next Steps

1. Complete the setup using `setup.bat`
2. Get your Groq API key
3. Run `start.bat`
4. Open http://localhost:3000
5. Start testing the AI Judge!

For deployment instructions, see DEPLOYMENT.md