

NIT3004 – IT Capstone Project 2

Semester 2, Block 4 (H2B4) – Group 14

TranslateAI: User Manual



Student Name and ID: Nachiket Patel (s8082887)

Date of Submission: 16th November 2025

Lecturer: Dr Gongqi (Joseph) Lin

Unit Convenor: Csaba Veres

Table of Contents:

1.	Introduction.....	3
2.	Prerequisites:.....	3
3.	Getting Started and Installation	3
3.1	Download the code:	3
3.2	Open the folder in Visual Studio Code	4
3.3	Location of “.env” file:	5
3.4	OpenAI API Creation.....	5
3.5	Supabase Setup	6
3.6	Configure the Frontend “.env.local” file.....	7
3.7	Run the Backend Server.....	7
3.8	Run the Frontend Server	8
4.	Using Translate AI	9
4.1	Register, and Sign In.....	9
5.	Using TranslateAI Features.....	10
5.1	Text Translation	10
5.2	Voice Translation – Real-Time	10
5.3	Voice Translation – Audio File Upload.....	11
5.4	Image Translation.....	12
5.5	Document Translation.....	12
6.	Translation History	14
7.	Settings and Account Management.....	15
7.1	Profile.....	15
7.2	Under New Password, enter your new password.....	15
7.3	Reset Password via Email	15
7.4	Account Deletion (Danger Zone).....	16
8.	Appendix:.....	17
8.1	Cloudflare Tunnel for backend:	17

1. Introduction

TranslateAI is a multilingual, AI-powered web application developed for the Victoria University IT Capstone Project 2. It enables real-time translation of text, voice, image, and document inputs using OpenAI's GPT-4 model, LangChain, and Supabase authentication. The application was designed to be lightweight, responsive, and easily deployable on any device. This manual provides a clear and beginner-friendly guide to installing, configuring, and operating TranslateAI on your local computer or through Cloudflare.

2. Prerequisites:

Before beginning the setup, please ensure that you have the following:

- Operating System: Windows 10 or Windows 11
- Software:
 - Visual Studio Code
 - Node.js (version 20 or higher)
 - Python 3.12+
 - “uv” package manager (used for Python dependency syncing)
- Internet connection: Required for accessing OpenAI API, Supabase Authentication, and Cloudflare Tunnel
- A valid OpenAI account with API key and at least \$5.50 of active credit.

Tip: You do not need to know how to code to begin. Simply follow the steps exactly as shown below:

3. Getting Started and Installation

3.1 Download the code:

1. Go to the official GitHub repository:

https://github.com/Plasmorix/ITCapstone2_TranslateAI_NachiketPatel

- Click the green “Code” button, then select “Download ZIP”.

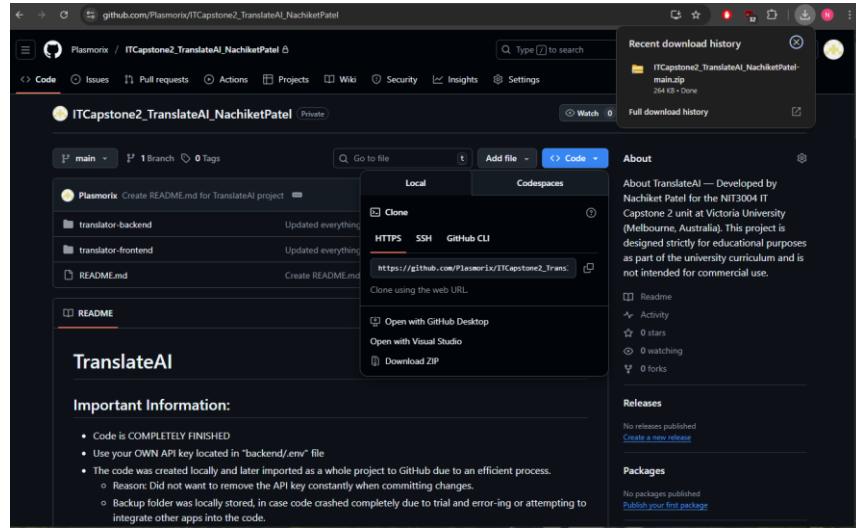


Figure 1. TranslateAI repository showing the Code menu with the Download Zip option. Moreover, the ZIP file has been downloaded as shown in the top-right corner of the screen..

- Locate the file in your **Downloads** folder.
- Right-click the file.
 - Select **Extract All**.
 - Choose a location (e.g. Desktop).

3.2 Open the folder in Visual Studio Code

- Install **Visual Studio Code** if not already installed.
- Open Visual Studio Code.
- Click **File**.
 - Open Folder**.
- Locate and select the extracted folder.

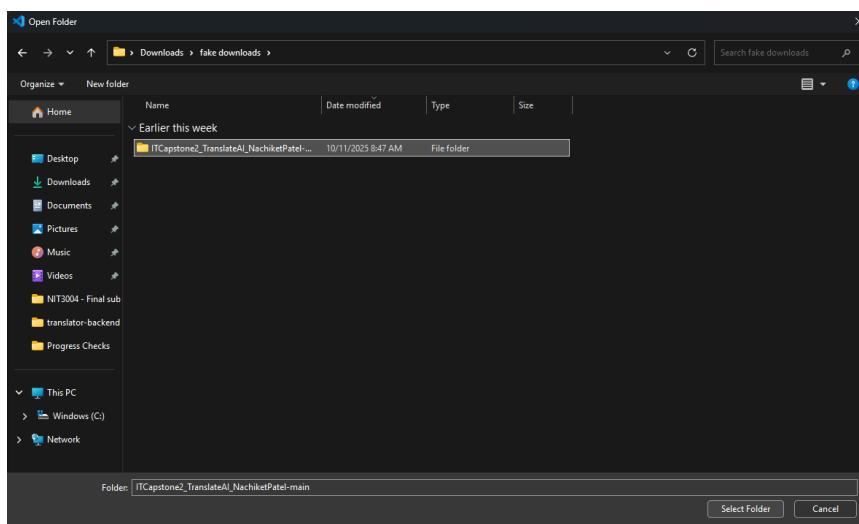


Figure 2. Opening the project folder in Visual Studio Code.

9. The folder structure should appear on the left-hand panel.

3.3 Location of “.env” file:

10. Navigate to:

translator-backend/

11. Find the file named “.env” in the root of the backend folder.

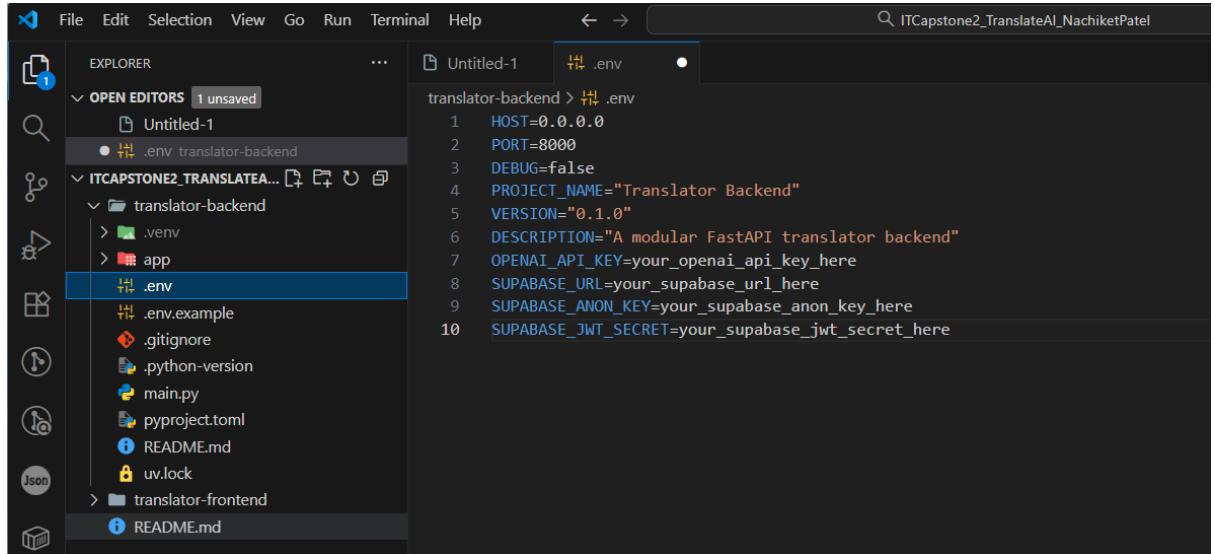


Figure 3. Locating the ".env" file in the backend directory.

3.4 OpenAI API Creation

12. Go to <https://auth.openai.com/create-account> and sign in or create an account.

13. Visit <https://platform.openai.com/api-keys>.

14. Click “Create new secret key”

14.1 Name it “**Translation Key**”

14.2 **Copy** the key and keep it private

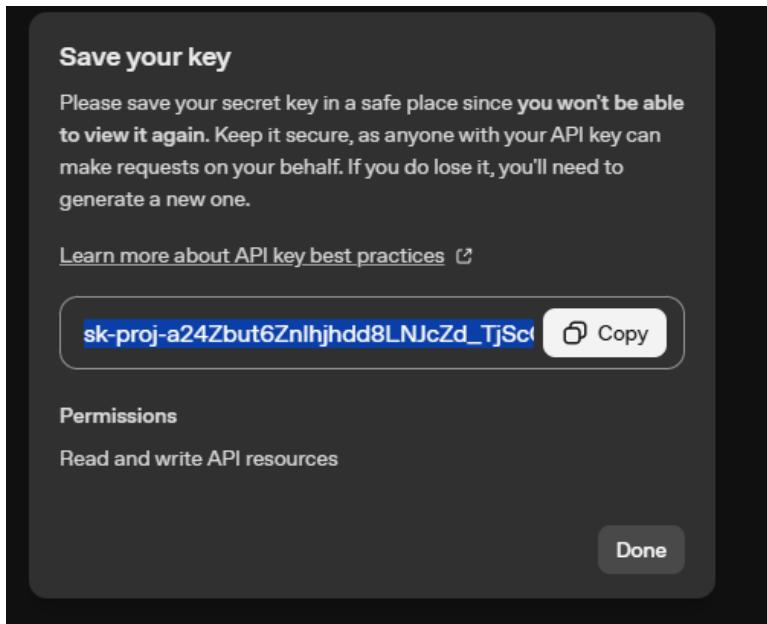


Figure 4. OpenAI dashboard displaying a freshly generated secret API key.

15. Open the “.env” file in the backend folder.
16. Paste your key after the equals sign on the line below:
OPENAI_API_KEY=sk-proj-a...yourkeyhere...
17. Refer to the “.env.example” file for additional guidance.

3.5 Supabase Setup

18. Go to <https://supabase.com>.
19. Sign in with Google or GitHub.
20. Click **New Project**.
 - 20.1 Name it “**TranslateAI**”.
 - 20.2 Click **Create Project**.
21. Go to **Table Editor**.
 - 21.1 Create Table.
 - 21.2 Name it “**translation_history**”.
22. Add the following columns:
 - ‘id’ (UUID, Primary Key)
 - ‘user_id’ (UUID)
 - ‘input_text’ (Text)
 - ‘translated_text’ (Text)
 - ‘source_lang’ (Text)
 - ‘target_lang’ (Text)
 - ‘modality’ (Text)
 - ‘created_at’ (Timestamp, Default = now)
23. Go to **Auth**.
 - 23.1 Then, **Policies**.
 - 23.2 Enable **Row Level Security (RLS)**.

24. Under **API Settings**, copy:

- Project URL
- Anon Key
- JWT Secret

25. Paste both into your backend ‘.env’ file like this:

```
8  SUPABASE_URL=your_supabase_url_here
9  SUPABASE_ANON_KEY=your_supabase_anon_key_here
10 SUPABASE_JWT_SECRET=your_supabase_jwt_secret_here
```

Figure 5. Example of ".env" file layout for Supabase key

3.6 Configure the Frontend “.env.local” file.

26. Open the **frontend-translator** folder.

27. Locate the “**.env.local**” file (Create one if it doesn’t exist)

28. Copy the following lines into it with the keys used in /translator-backend/.env file:

```
1  NEXT_PUBLIC_API_URL=http://localhost:8000
2  NEXT_PUBLIC_SUPABASE_URL=your_supabase_url_here
3  NEXT_PUBLIC_SUPABASE_ANON_KEY=your_supabase_anon_key_here
```

Figure 6. Correct layout of /translator-frontend/.env.local.

3.7 Run the Backend Server

29. In Visual Studio Code, right-click the translator-backend folder

29.1 Click “**Open in Integrated Terminal**”.

30. First, install the backend dependencies by running:

“**uv sync**”

Note: This installs all required Python packages listed in the pyproject.toml file using the uv manager.

31. Once installation is complete, start the backend server using:

“**uv run main.py**”

32. The terminal will display:

“*Uvicorn running on <http://0.0.0.1:8000>*” – indicating that the backend is live.

33. **Keep this terminal open.** Closing it will end the backend service.

(To manually quit, press **Ctrl + C**.)

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS CLOUDFLARE TUNNEL

● PS C:\Users\Nachiket\Downloads\ITCapstone2_TranslateAI_NachiketPatel\translator-backend> uv sync
Resolved 77 packages in 1ms
Audited 75 packages in 4ms
○ PS C:\Users\Nachiket\Downloads\ITCapstone2_TranslateAI_NachiketPatel\translator-backend> uv run main.py
INFO: Will watch for changes in these directories: ['C:\\\\Users\\\\Nachiket\\\\Downloads\\\\ITCapstone2_TranslateAI_NachiketPatel\\\\translator-backend']
INFO: Unicorn running on http://0.0.0.0:8000 (Press CTRL+C to quit)
INFO: Started reloader process [29364] using WatchFiles
INFO: Started server process [30280]
INFO: Waiting for application startup.
INFO: Application startup complete.

```

Figure 7. Backend dependencies installed and local development server running successfully in the terminal.

3.8 Run the Frontend Server

34. In Visual Studio Code, right-click the **translator-frontend** folder
 - 34.1 Click “**Open in Integrated Terminal**”
35. Install frontend dependencies by running:
“**npm i**”
This command installs all packages in the package.json file.
36. After installation, start the frontend using:
“**npm run dev**”
37. The terminal will display:

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS CLOUDFLARE TUNNEL

● PS C:\Users\Nachiket\Downloads\ITCapstone2_TranslateAI_NachiketPatel\translator-frontend> npm i
up to date, audited 428 packages in 1s
146 packages are looking for funding
  run 'npm fund' for details

found 0 vulnerabilities
● PS C:\Users\Nachiket\Downloads\ITCapstone2_TranslateAI_NachiketPatel\translator-frontend> npm run dev
> translator-frontend@0.1.0 dev
> next dev

  ▲ Next.js 16.0.0 (TurboPack)
  - Local:      http://localhost:3000
  - Network:    http://192.168.86.29:3000
  - Environments: .env.local

  ✓ Starting...
  ✓ Ready in 762ms

```

Figure 8. Frontend dependencies installed and local development server running on port 3000.

38. **Keep this terminal open.** Closing it will stop the frontend.

4. Using Translate AI

4.1 Register, and Sign In

39. Open your web browser and visit <http://localhost:3000>

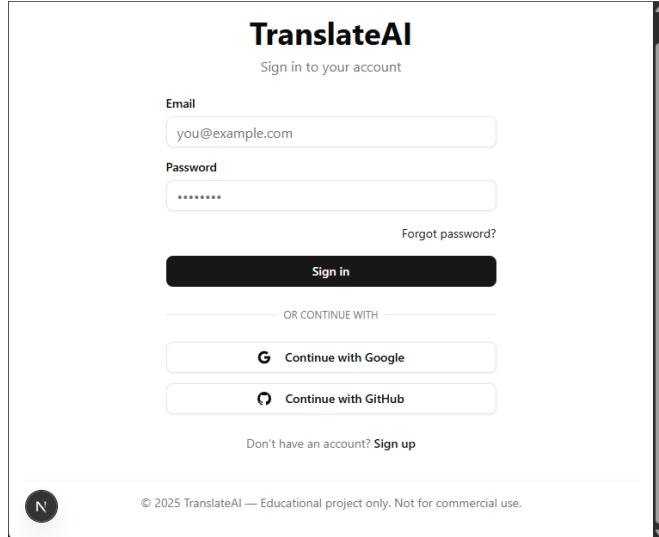


Figure 9. TranslateAI login and registration interface.

40. Log in or register using your preferred option – **Email/Password, Google, or GitHub**.

41. To register via email:

41.1 Click “**Sign up**”

41.2 Enter your **Full Name, Email** and **Password** in the respective fields.

41.3 Click “**Sign up**” to confirm.

42. If you **forget** your **password**:

42.1 Click “**Forgot Password?**”

42.2 Type your **email** in the respective field

42.3 Click “**Send reset link**”

42.4 Click the link in your email to access the landing page.

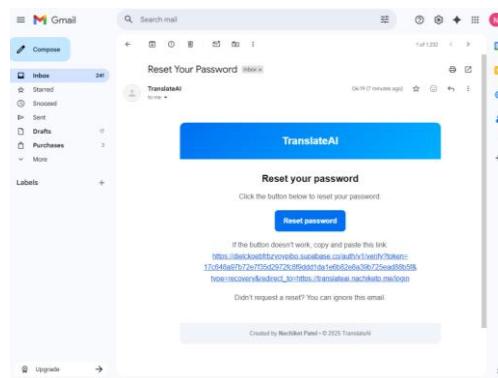


Figure 10. "Reset Password" link sent to the email.

42.5 See “**Step 72**” within this user manual for further instructions on changing your password.

5. Using TranslateAI Features

5.1 Text Translation

43. Select **Text** mode.
44. Choose the **input language** or leave it as **Auto-Detect**.
45. Choose the **output language**.
46. Type your text in the input box and click **Translate**.
47. The translated results will appear instantly on the right.
48. Click **Copy** to copy the result.

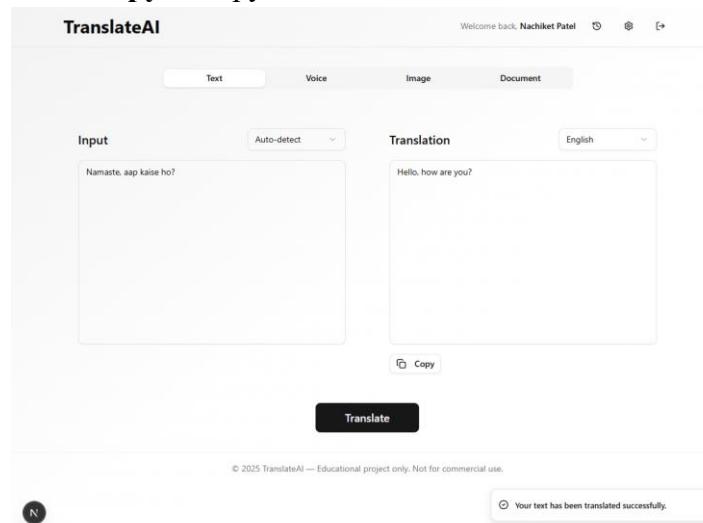


Figure 11. Successful translation of a text input from **Hindi** to **English**.

5.2 Voice Translation – Real-Time

49. Select **Voice** mode.
50. Choose the output language.
51. Click **Start Recording**.
52. After finishing, wait about 20 seconds for processing.

53. The transcribed input and its translated output will appear on screen.

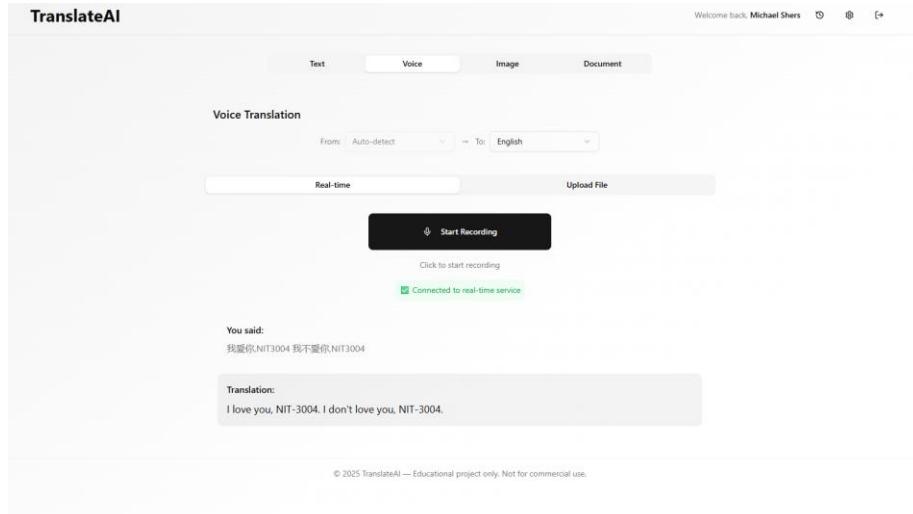


Figure 12. Successful translation of real-time voice-to-text within the **Real-time** translation UI.

5.3 Voice Translation – Audio File Upload

54. Choose **Voice** mode.
55. Choose your **output language**.
56. Choose **Upload File**.
57. Supported file types: **MP3, WAV, M4A, FLAC (Max 25 MB)**.
58. Select your audio file and wait a few seconds.
59. The transcript and translation will appear as text.

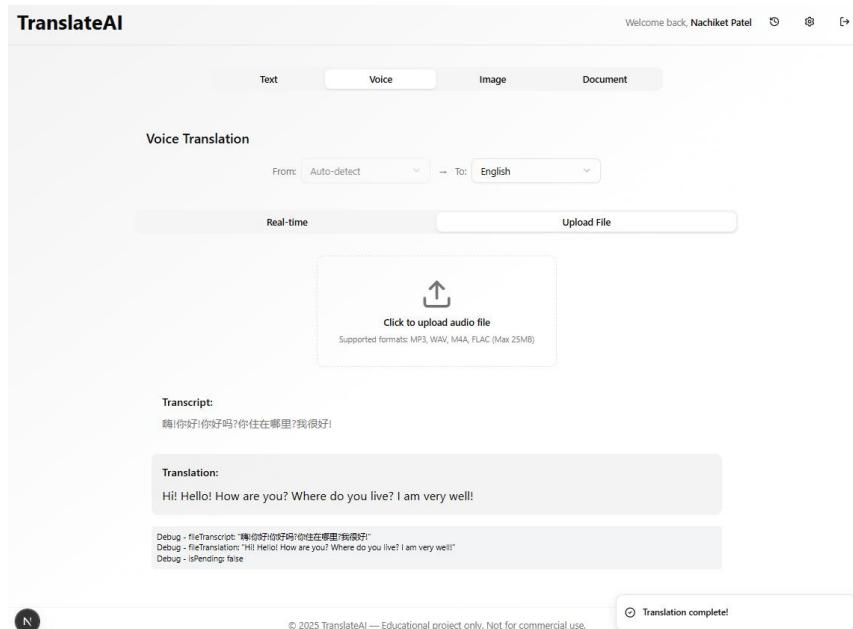


Figure 13. Successful voice-to-text within the **Upload File** translation UI

5.4 Image Translation

60. Select **Image** mode.
61. Choose your **output language**.
62. Upload an image using one of the following three options:
 - 62.1 **Drag and Drop**
 - 62.2 **Browse your Files**
 - 62.3 **Paste from Clipboard**
63. Supported image formats: **.jpg, .jpeg, .png, .webp (Max 5 MB)**.
64. Once uploaded, the application automatically performs OCR (text extraction) and translation.
65. Both the **original image** and **translated text** will appear on screen.

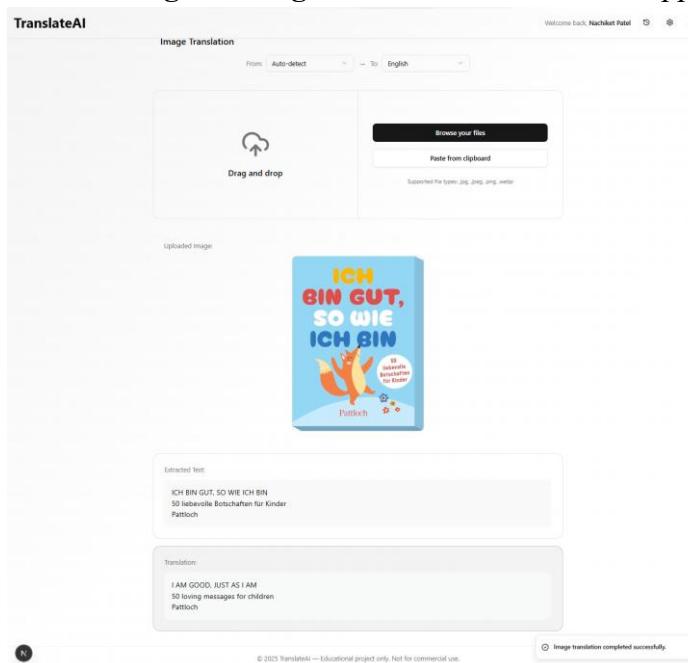


Figure 14. Image translation showing original image, along with the extracted and translated text.

5.5 Document Translation

66. Select **Document** mode.
67. Choose your **output language**.
68. Upload a file using one of the following three options:
 - 68.1 **Drag and Drop**
 - 68.2 **Browse your Files**
 - 68.3 **Paste from Clipboard**
69. Supported file types: **.txt, .md, .csv, .yaml, .yml, .pdf (Max 5 MB)**.

70. Once processed, the document name, type, and translated text will be visible.

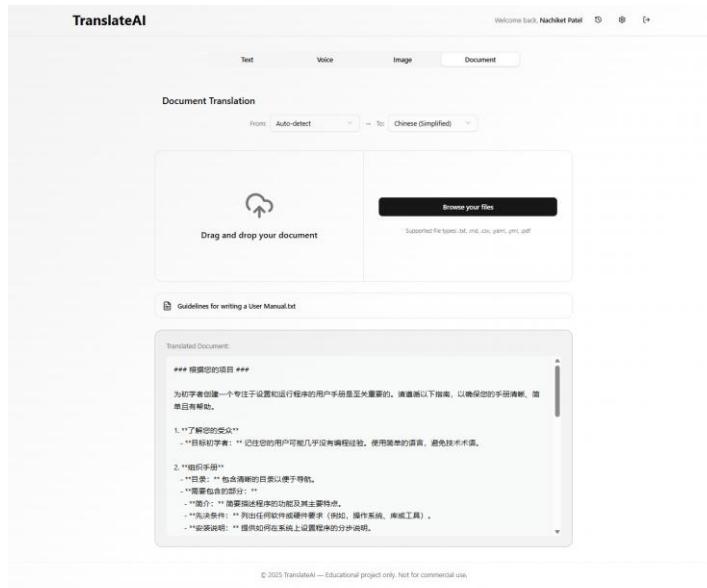


Figure 15. Successfully translated uploaded document.

6. Translation History

71. Click the **History icon** in the navigation bar to view all past translations.

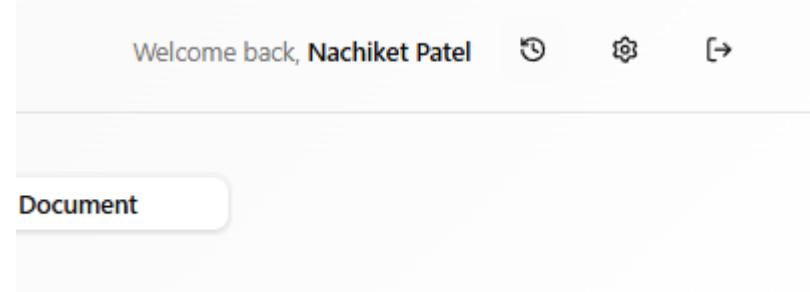


Figure 16. History icon located on the left of the Settings icon.

72. Each record shows:

72.1 Input type (Text, Real-time, Audio, Image, Document)

72.2 Date and time

72.3 Input and output text

73. For file-based translations, only transcribed/translated text is visible (original is not stored).

74. To delete a translation record, click the **red bin icon** beside it.

75. To export all records, click **Export CSV**.

76. To quickly find all specific translations, use the **Search bar** at the top.

A screenshot of the "Translation History" page. At the top, there is a search bar labeled "Search translations...". Below the search bar is a table listing five translation records. Each record includes a timestamp, input type, date, and output language. The records are as follows:

- Document • 12/11/2025 • Auto → zh-CN
Input: ### Subject to your project ### Creating a user manual that focuses on setting up and running your program is essential for beginners. Follow these guidelines to ensure your manual is clear, straightforward, and helpful. 1. **Know Your Audience** - **Target...
Output: ### 根据您的项目 ### 为初学者创建一个专注于设置和运行程序的用户手册是至关重要的。请遵循以下指南，以确保您的手册清晰、简单且有帮助。1. **了解您的受众** - **目标初学者：** 记住您的用户可能几乎没有编程经验。使用简单的语言，避免技术术语。 ...
- Image • 12/11/2025 • Auto → en
Input: ICH BIN GUT, SO WIE ICH BIN 50 liebevolle Botschaften für Kinder Pattloch
Output: I AM GOOD, JUST AS I AM 50 loving messages for children Pattloch
- Audio • 12/11/2025 • Auto → en
Input: 嗨!你好!你好吗?你住在哪里?我很好!
Output: Hi! Hello! How are you? Where do you live? I am very well!
- Text • 12/11/2025 • Auto → en
Input: Namaste, aap kaise ho?
Output: Hello, how are you?
- Document • 12/11/2025 • Auto → en
Input: # TranslateAI ## Important Information: - Code is COMPLETELY FINISHED - Use your OWN API key located in "backend/.env" file - The code was created locally and later imported as a whole project to GitHub due to an efficient process. - Reason: Did not...
Output: # TranslateAI ## Important Information: - Code is COMPLETELY FINISHED - Use your OWN API key located in "backend/.env" file - The code was created locally and later imported as a whole project to GitHub due to an efficient process. - Reason: Did not...

Each record has a red trash can icon to its right. In the bottom right corner of the page, there is a message: "The translation has been removed." with a circular icon.

Figure 17. Translation history with search, delete, and export options.

7. Settings and Account Management

7.1 Profile

77. Access the **Settings** tab
78. View your registered email (non-editable)
79. Edit your **Full Name** by clicking it, typing a new name, and clicking **Update Profile**.

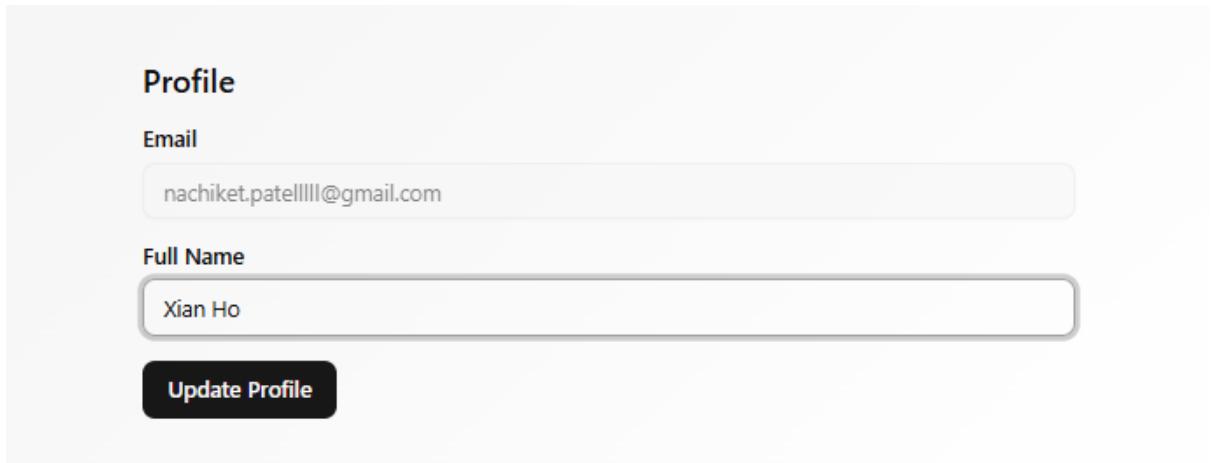


Figure 18. Editing "Full Name" under Profile settings.

7.2 Under New Password, enter your new password.

80. Re-type it, under **Confirm your New Password**.
81. Click **Change Password**.

7.3 Reset Password via Email

82. Under **Reset Password via Email**, enter your account email.
83. Click **Send Reset Email**.
84. Check your inbox for the reset link.
85. Follow the instructions.

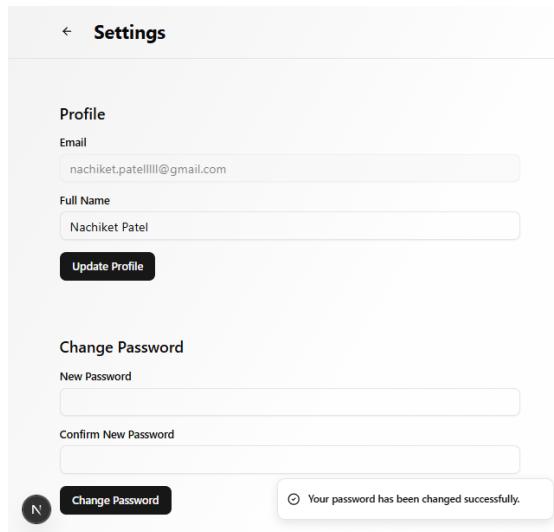


Figure 19. Successfully changed the password in settings.

7.4 Account Deletion (Danger Zone)

86. Under **Danger Zone**, click **Delete Account**.
87. Confirm the deletion in the pop-up window by clicking **Delete Account** again.

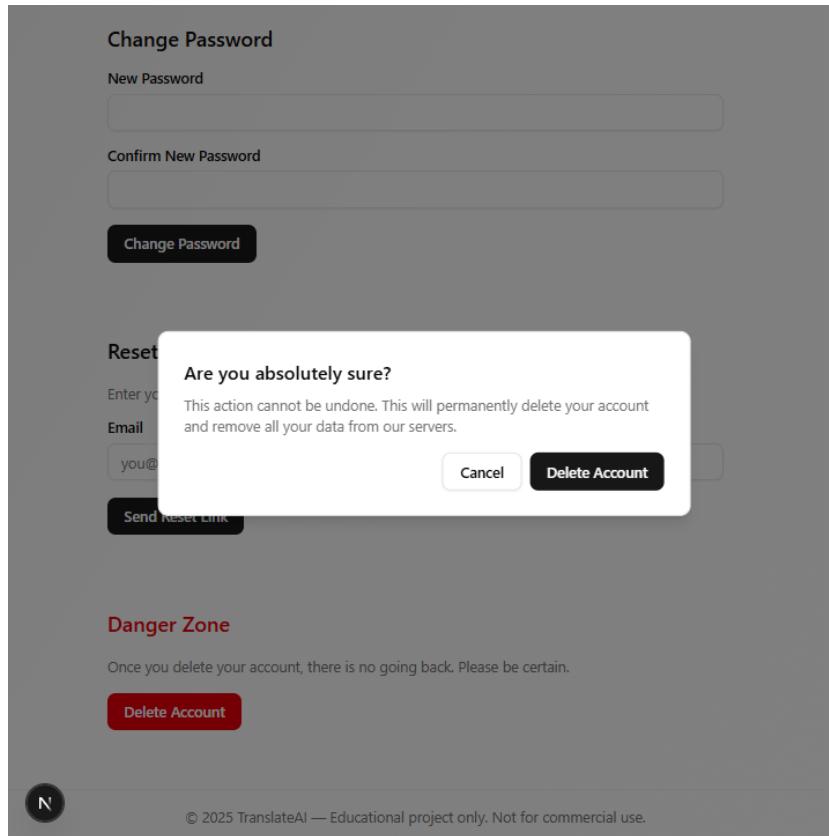


Figure 20. Delete Account pop-up confirmation.

8. Appendix:

- 8.1 Cloudflare Tunnel for backend:
 88. Open **Visual Studio Code**.
 89. Go to **Extensions (Ctrl + Shift + X)**.
 - 89.1 Search for **Cloudflare Tunnel**.
 - 89.2 Click **Install**.
 90. Log in or sign up for a Cloudflare account.
 91. Open the Cloudflare Tunnel tab in VSC.
 92. Click **Create Tunnel**.
 - 92.1 Click **New Tunnel**.
 93. Set the following:
 - 93.1 **Port:** 8000
 - 93.2 **Hostname:** translate-api.nachiketp.me
 - 93.3 Service Type: HTTP
 94. Click **Start Tunnel**.
 95. Once connected, your backend will be live at:
<https://translate-api.nachiketp.me>
 96. Keep this running while using TranslateAI.