

# Axit patel

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## ABOUT MYSELF

Backend-focused Computer Applications graduate with hands-on experience in building and deploying full-stack and AI-powered systems using Python, Django, and Flask.

Actively working with Machine Learning, Deep Learning concepts, and Large Language Models (LLMs) through real-world projects such as PDF-based Q&A systems, retrieval-augmented generation pipelines, and AI chatbots.

Strong interest in scalable backend systems, applied AI engineering, and production-ready AI workflows.

## EDUCATION & TRAINING

### Bachelor in Computer Application

**Natubhai V. Patel College of Pure & Applied Sciences** [ 25/01/2022 - 16/05/2025 ]

**City:** Anand, Gujarat | **Country:** India

**Final grade:** 9.13

## LANGUAGE SKILLS

**Mother tongue(s):** Gujarati | Hindi

### English

**LISTENING:** C1 **READING:** B2 **WRITING:** B2

**SPOKEN PRODUCTION:** C1

**SPOKEN INTERACTION:** C1

### German

**LISTENING:** A2 **READING:** A2 **WRITING:** A2

**SPOKEN PRODUCTION:** A2

**SPOKEN INTERACTION:** A2

## SKILLS

### Backend & Systems

SQL | Python | Django | Flask | MongoDB | PostgreSQL | MySql | Sqlite

### Frontend

Next JS | HTML | Bootstrap | JavaScript | CSS

### DevOps & Development

Docker | GitHub | Git | Vercel | Hostinger | Linux | Podman

### Machine Learning & AI

Machine Learning | Deep Learning | LLM & Applied AI | Huggingface transformers | FAISS

## PROJECTS

- **Designed and developed using HTML, CSS, JavaScript, and Django**, enabling users to join, watch courses, read books, and participate in community chats.

- Implemented educator onboarding with **pay-per-view monetization** and payout logic based on course length and engagement.
- Built an integrated advertising module allowing businesses to promote products/services directly to the platform's audience.
- Created role-based workflows for learners, educators, and advertisers with secure authentication and payment processing.
- Developed community features including **real-time chat** for course discussion and networking.

**Link:** <https://github.com/axitpatel1310/Cashskool-django>

**Pattern-Based Chatbot with PDF Generation & Image Editing** Designed and developed as a solo project using **HTML, CSS, JavaScript, Flask, and Python** with **ReportLab** for PDF generation and **Pillow** for image editing.

Built a **JSONL-driven chatbot** capable of recognizing user queries and responding with pre-defined conversation patterns.

Implemented **on-demand PDF generation** where users can type commands (e.g., "create pdf") and instantly receive a downloadable PDF of the provided text.

Integrated an **image editing suite** supporting crop, rotate, brightness, saturation, and contrast adjustments via Pillow.

Designed a clean, **responsive web interface** enabling seamless chat, file upload/download, and real-time image previews.

Developed backend logic in Flask for **efficient request handling, file processing, and secure file delivery**.

**Link:** <https://github.com/axitpatel1310/advance-chat-bot-flask>

**Revenue-Sharing Search Engine — Web Scraper & Ad Monetization Platform** Designed and developed as a solo project using **Python (BeautifulSoup), HTML, CSS, JavaScript, Bootstrap, and Django**.

Created a **custom search engine** that scrapes web content and displays results with embedded ads after every three search results.

Implemented a **revenue-sharing model** where 40% of ad earnings are automatically credited to users based on their engagement time.

Built an **admin-controlled ad management system** to dynamically update ad creatives and placements without downtime.

Integrated **search history tracking** for users and a **content filtration system** to block restricted keywords.

Developed a **scalable scraping pipeline** using BeautifulSoup to fetch and index search results in real time.

**Link:** <https://github.com/axitpatel1310/Apex-Engine>

**Flask Chat-Bot (Live On Vercel)** *Flask, Python, HTML/CSS/JS, Vercel (Deployed)*

- Built a lightweight **chatbot application** using **Flask** with a **JSONL dataset** for prompt-response mapping.
- Developed a simple **web interface** (HTML/CSS/JavaScript) for real-time chat interaction.
- Exposed chatbot logic through a REST-style API (/chat) and integrated it with the frontend.
- Deployed the application on **Vercel** as a **serverless Flask app**, making it publicly accessible with a live URL.
- Configured requirements.txt and vercel.json for automated builds and reproducible deployments.
- Designed the project for easy customization: responses can be updated by editing the dataset without code changes.

**Key Skills:** Python, Flask, REST APIs, Web Development, JSON, Git/GitHub, Serverless Deployment on Vercel.

**Link:** <https://simple-prompt-response-chatbot.vercel.app/>

**PDF Chat Bot PDF Chat Bot — LLM-based Document Question Answering System**

- Built a conversational AI system that enables natural language querying over PDF documents using text

extraction and vector similarity search.

- Implemented embedding-based retrieval with FAISS to fetch relevant document chunks before generating responses.
- Integrated a lightweight LLM for contextual question answering, demonstrating core Retrieval-Augmented Generation (RAG) concepts.
- Designed the system for real-world use cases such as student notes, research papers, and professional documents.
- Published as a technical YouTube tutorial explaining RAG concepts through hands-on implementation.

**Tech:** Python, FAISS, PyPDF2, Hugging Face Transformers, LLMs

**Link:** <https://youtu.be/9IMX15ikRyE?si=EACtsq9AszoEW2cB>

**Website Scraper Chat Bot** Built an intelligent Python chatbot that scrapes live website data (e.g., Wikipedia) using requests and BeautifulSoup, cleans raw HTML with regex, and transforms it into structured text for downstream NLP tasks.

Integrated Hugging Face **Transformers** (distilbert-base-cased-distilled-squad) for **question answering** on scraped context, enabling real-time conversational Q&A from any webpage.

Designed robust error handling for failed HTTP requests and invalid responses, ensuring chatbot reliability.

Developed an interactive CLI loop allowing users to input questions, retrieve answers, and gracefully exit.

Published project as a **step-by-step YouTube tutorial (on NextGen Ai)**, making AI/NLP techniques accessible to learners and developers.

Applied transformer-based question-answering models (DistilBERT) to perform machine learning-driven inference over dynamically scraped web content.

**Tech stack:** Python, requests, BeautifulSoup, regex, Hugging Face Transformers.

**Link:** [https://youtu.be/Eke0rOnZ0Dg?si=n\\_FgfQVmrwlj-U0](https://youtu.be/Eke0rOnZ0Dg?si=n_FgfQVmrwlj-U0)

## CREATIVE WORKS

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1. Created 97+ programming and AI tutorial videos on YouTube.
2. Published "Python for Beginners" course on Udemy.
3. Currently documenting AI, ML, and LLM-based projects on *NextGen AI* YouTube channel.

**Links:** <https://www.youtube.com/@akyaapatel/> | [https://www.instagram.com/the\\_nextgen.ai/](https://www.instagram.com/the_nextgen.ai/)

- Produced and published **97 educational programming videos** covering web development, Python scripting, and beginner-friendly coding concepts.
- Created **step-by-step tutorials** demonstrating the build process for small projects, coding best practices, and debugging techniques.
- Built and maintained an engaged audience of **196 subscribers**, fostering interaction through comments, Q&A, and code snippet sharing.
- Edited videos for clarity with on-screen code walkthroughs and live demonstrations.

**Link:** <https://www.youtube.com/@akkysprogramming4113>