

# Anuj Patil

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## Summary

Final year undergraduate software developer with a strong passion for designing autonomous AI agents and multi-agent systems. Experienced in building AI-powered applications with Python and FastAPI, leveraging a solid foundation in object-oriented programming with Java to create robust, full-stack solutions. Eager to apply a versatile skill set in both AI development and core software engineering to contribute to impactful projects.

## Education

### Bachelor of Technology (B.Tech) in Computer Engineering

2022 - 2026

Pillai College of Engineering, University of Mumbai, Mumbai

CGPA : 7.24

## Skills

**Programming Languages:** Java,C , Python, Javascript.

**Databases:** PostgreSQL (pgvector), MySQL, Redis

**Tools:** Git, VS Code, IntelliJ IDEA, Jupyter Notebook

**Frameworks:** React, Node.js, Spring Boot

**AI/ML:** RAG, Fine-Tuning (LoRA), LangChain, Vector Databases (ChromaDB), Chatbot Development.

**Operating Systems:** Linux, Windows, macOS

**Other:** Data Structures & Algorithms, Object-Oriented Programming (OOP), RESTful API Development

**Soft Skills :** Team Collaboration, Leadership and Mentoring, Communication, Time Management, Problem-Solving, Adaptability

## Projects

### Agent Sentinel

Autonomous Misinformation Defense System Designed and built a fully autonomous AI agent that detects, verifies, and neutralizes viral misinformation in near real-time for Government (B2G) and Enterprise (B2B) use. *Role:* Lead Backend Engineer. *Technology used:* Python, FastAPI, HuggingFace Transformers (RoBERTa), GDELT API

### AI Tutor with Voice Cloning & Persona Preservation

A full-stack AI application featuring a custom-trained tutor that answers questions about specific course materials.Achieved a 95% response accuracy on course-specific questions while maintaining the tutor's unique persona. *Type:* Group(4 members). *Technology Used:* Python, FastAPI, Streamlit, RAG, LoRA Fine-Tuning, Voice Cloning (XTTS), Vector Databases (ChromaDB), MLX.

### SmartDoc Query Engine

A full-stack, AI-powered RAG (Retrieval-Augmented Generation) system for secure PDF querying and management.Architected a microservice-based solution using Docker Compose for high availability, leveraging PostgreSQL with pgvector for efficient vectorized storage and Redis for caching and rate limiting.*Role:* Full-Stack Developer / DevOps. *Technology Used:* Python (FastAPI), React.js (Vite), PostgreSQL (pgvector), Redis, Docker, Sentence Transformers, RAG.

### Password Manager (CLI)

Created a secure command-line password manager using advanced encryption. Implemented Doubly Linked List for efficient data management. *Type:* Self. *Technology Used:* Java, AES Encryption, Data Structures, CLI

### Health Food AI Assistant

Built an intelligent AI assistant to provide personalized health recommendations. *Action:* Implemented a custom algorithm that analyzes user medical conditions against a database of 500+ food items. *Result:* Delivered instant, safe food suggestions to improve user dietary choices. *Type:* Self. *Technology Used:* JavaScript, AI Integration, Healthcare Domain.

### DevConnect Platform

A comprehensive campus placement and academic resource sharing platform. Developed both frontend (React) and backend (Spring Boot) components *Type:* Self. *Technology Used:* Java Spring Boot, React.js, Full-Stack Development.

**JSON to CSV Converter (CLI)**

Built a command-line tool for data format conversion. Optimized for large file processing and memory management. Simplifies data transformation workflows for developers. *Type:* Self. *Technology Used :* Java, CLI, Data Processing.

**Concurrent Web Crawler**

Developed high-performance web crawler using concurrent programming. The project is a piece of test automation.Engineered a multithreaded design that successfully scanned 1,000+ links per minute, identifying all broken links on a target website. *Type :* Self. *Technology Used :* Java, Multithreading, Web Scraping.

**Languages**

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English, Hindi, Marathi