Rishabh Tyagi
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PROFILE

I am an AIML enthusiast with practical experience in machine learning, Python programming, and AI frameworks. I specialize in developing smart applications like chatbots, recommendation systems, and automation tools that solve real-world problems. With strong problem-solving skills and expertise in data preprocessing and model deployment, I strive to create efficient and scalable technology solutions. I am passionate about continuously learning and applying innovative AI and machine learning technologies.

ACADEMIC DETAILS

Examination	University	Institute	Year	CPI/%
B.Tech in CS	GEHU Dehradun	Graphic Era Hill University	Aug 2022 - Present	8.5 / 10
Class XII	CBSE	Vivekanand School	2022	86%
Class X	CBSE	St. Thomas School	2020	90.6%

PROJECTS

Chat with PDF *Nov 2024 – Jan 2025*
Technologies: Python, Streamlit, FAISS, Google Gemini AI

- Developed an AI-based PDF chatbot that answers user queries using vector search and conversational AI.
- Integrated Streamlit UI with Gemini API and FAISS for fast semantic retrieval from uploaded PDFs.
- Enable interactive responses by combining text extraction, embedding, and context-sensitive language modeling.

Two-Step Authentication System *May 2024 – Jul 2024*
Technologies: Python, OpenCV, SimpleFacerec, Excel

- Built a secure dual-authentication system using facial recognition and Excel-based login verification.
- Implemented text-to-speech (TTS) for user feedback and automatic redirection to a recommendation engine.
- Enhanced user authentication flow while combining biometric and data layer security.

Movie Recommendation System *Mar 2024 – May 2024*
Technologies: Python, Pandas, Scikit-learn

- Created a content-based recommendation engine using metadata (genre, cast, director) to suggest similar movies.
- Achieved 98% precision by tuning similarity metrics and evaluating user relevance on curated datasets.
- Applied cosine similarity to calculate the proximity of features and ranked the results accordingly.

Voice-Controlled Automation and Screenshot System *Apr 2025 – May 2025*
Technologies: Python, SpeechRecognition, PyAutoGUI, OCR (pytesseract), Threading

- Developed a voice-activated automation system that allows control over system tasks, applications, browser actions, and media playback using speech commands.
- Integrated screenshot functionality that captures timestamped images and stores them in dynamically created folders.
- Utilized multi-threading to allow non-blocking screenshot capture during active voice recognition, improving responsiveness and efficiency.
- Enhanced automation with OCR-based on-screen text detection and clickable UI interaction, enabling voice-driven control over any visible application element.
- Implemented dynamic app launch, keyword-based search, and customizable command recognition for seamless human-computer interaction.

TECHNICAL SKILLS

- **Programming Languages:** Python, Java, C
- **Machine Learning Tools:** NumPy, Pandas, TensorFlow, Scikit-learn
- **Database:** MySQL
- **Web Development:** HTML, CSS, JavaScript

ACHIEVEMENTS

- Ranked 6th out of 100+ teams in a 24-hour hackathon by developing a responsive and interactive tourism website for the Uttarakhand government initiative.
- Solved 200+ Data Structures and Algorithms problems on competitive coding platforms including Leet-Code, CodeChef, and GeeksforGeeks.
- Completed the **Solutions Architecture Virtual Experience Program** offered by Amazon via Forage (Feb 2025), gaining hands-on experience in designing scalable and cost-effective cloud infrastructure.
- Completed the **Virtual Experience Program in Software Engineering** by Goldman Sachs through Forage (February (2025), addressing real-world cybersecurity problems, including analysis and remediation of a simulated password data breach.

CERTIFICATIONS

- **Foundations of Data Science**, IIM Bangalore - Basics covered data pre-processing, visualization, and ML.

- **Generative AI: Language Modeling with Transformers**, IBM – Focused on transformer-based models and NLP.

- **ChatGPT: Introduction to NLP AI**, Vanderbilt University – Explained principles of NLP and conversational AI.