

# Aarchi Singh

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## SUMMARY

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Detail-oriented Computer Science undergraduate specializing in Artificial Intelligence and Data Analytics with hands-on experience in machine learning, deep learning, and statistical modeling. Proficient in Python, SQL, and data visualization tools such as Power BI and Tableau for building scalable, AI-driven solutions. Skilled at transforming complex datasets into actionable insights, optimizing workflows, and delivering business intelligence that supports data-driven decision making. Recognized for strong problem-solving, adaptability, and collaborative teamwork in fast-paced, innovation-focused environments.

## SKILLS

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**Technical Skills** Python, Power BI, Tableau, AI and Machine Learning, MySQL, AWS cloud, data analysis, deep learning, Gen AI, computer vision and NLP and R programming.

**Soft Skills** Problem-Solving, Analytical Thinking, Attention to Detail, Team Collaboration, Communication, Time Management, Adaptability, Product Management

## PROJECTS

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### Legal Advice Chatbot

- Developed and deployed an AI-powered legal assistant chatbot that retrieved relevant legal documents with over 92% retrieval accuracy and delivered real-time legal guidance with contextual explanations.
- Built a retrieval-augmented generation (RAG) pipeline using LangChain, FAISS, and Hugging Face Transformers (LLaMA on PyTorch), reducing query response time by approximately 30%.
- Applied advanced prompt engineering to enable clause summarization and contextual Q&A, improving user comprehension of legal content by 25% in pilot testing.
- Enhanced legal accessibility by simplifying complex legal language into clear, user-friendly outputs, improving usability for individuals without legal expertise.
- **Skills Applied:** Python, Hugging Face Transformers, PyTorch, LangChain, FAISS, LLaMA, RAG Architecture, Prompt Engineering

### Voice Cloner Project

- Built a lightweight voice cloning system generating expressive speech from less than 5s reference audio using ChatterboxTTS.
- Implemented text preprocessing, semantic chunking (NLTK + SBERT), and synthesis loop with fade/normalize for natural narration.
- Integrated crossfaded concatenation + Whisper ASR to deliver editor-ready outputs (WAV, MP3, JSON, SRT) for audiobooks, e-learning, and dubbing.
- **Skills Applied:** Python, PyTorch, ChatterboxTTS, Whisper, NLTK, SBERT, CUDA, Audio Processing

### Automated Ride-Sharing Analytics Platform

- Developed an end-to-end Medallion Architecture pipeline on Databricks to automate ingestion and transformation of ride-sharing data into regional insights.
- Leveraged Spark Declarative Pipelines (SDP) and Autoloader to reduce ETL code by 60% while enabling automated, incremental processing of raw S3 datasets.
- Enforced data governance via Unity Catalog, implementing Role-Based Access Control (RBAC) to secure localized data for regional stakeholders.
- Integrated Databricks Genie (AI) for natural language querying, empowering non-technical users to access Gold-layer metrics without SQL.
- **Skills Applied:** Python, Databricks, Apache Spark, LakeFlow, Unity Catalog, AWS S3, Medallion Architecture, ETL/ELT.

## EDUCATION

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2022 - Present	B.Tech (Computer Science) at <b>MIT ADT University</b> ,Pune	(GPA: 7.56)
2022	<b>Class 12th</b> At Trinity International School - CBSE Board	(69%)
2020	<b>Class 10th</b> At Sinhgad Public School - CBSE Board	(94%)

## CERTIFICATIONS

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<b>Networking Basics</b>	Computer Networking
<b>Python Certificate</b>	Python Language
<b>Exploratory Data Analysis for Machine Learning</b>	EDA, Machine Learning
<b>AWS Academy Cloud Foundations</b>	Cloud Foundations
<b>IBM Data Analyst Professional Certificate</b>	Exploratory Data Analysis, Dashboard, Data Visualization, Data Import/Export

## EXTRA CURRICULAR

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### **Event Management Member – Cloud Computing Club**

Assisted in planning, organizing, and managing club events, ensuring smooth coordination and active student participation.

### **Smart India Hackathon 2024**

Participated in the national-level Smart India Hackathon 2024 and earned a certificate of participation.

### **Shelnspires Women's Hackathon-Zensar Learning Academy**

Worked in a team during a hackathon to design and implement solutions for a specific problem statement.