

RISHABH AGRAWAL

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My Portfolio Website

EDUCATION

K.J. Somaiya College of Engineering

Bachelor of Technology in Computer Engineering; CGPA: 8.67

Vidyavihar, Mumbai

Oct. 2022 – May 2026

Kishinchand Chellaram (K.C.) College

Pre-University Education; HSC Percentage: 77.67%

Churchgate, Mumbai

2020 – 2022

GreenLawns High School

Secondary School Education; ICSE Percentage: 97%

Breach Candy, Mumbai

Till 2020

EXPERIENCE

Machine Learning Intern

ONGC

2025

- Designed and implemented a Local **Retrieval-Augmented Generation (RAG)** model for contextual document-based question answering using **LangChain**, **Ollama**, and **HuggingFace**.
- Implemented **vector indexing** and enhanced knowledge retrieval by integrating **Llama**.
- Improved pipeline speed and responsiveness, **optimizing AI workflow** for better operational efficiency.

Internship with Software Development Cell | [Demo](#) | [GitHub](#)

KJSSE

2024

- Developed a webapp using Flask to **automate generation** of seating plans and Student lists for my university examinations.
- Utilized **Python**, **Pandas**, and **Openpyxl** for data manipulation and dynamic Excel report generation.
- Created a streamlined and efficient tool that **saved significant time** during Exam schedule preparations.

PROJECTS

KhetGuru | *MERN Stack, KNN, CNN, TensorFlow, Google Generative AI, Python*

[Github](#)

- Developed an **AI-powered** precision agriculture platform with data-driven solutions to **reduce costs** for farmers
- Implemented a **crop recommendation model** based on extracted parameters using K-Nearest Neighbors (KNN).
- Developed a **crop disease detection** system using Convolutional Neural Networks (CNN) to analyze crop images.
- Integrated **Google Generative AI** to power a conversational chatbot.

Ishaara | *spaCy, OpenAI Whisper, Python, Flask, Three.js, Blender*

[Github](#)

- Architected a **real-time audio-to-sign** language translator with custom, sophisticated, **spaCy-based NLP engine** for translation from English to ISL to bridge the communication gap for the Deaf community.
- Engineered a 3D rendering pipeline featuring a **scalable lazy loading** system and **animation blending** to display animations fluidly on a **dynamic 3D avatar**.

AlphaEngine | *Flask, Python, LightGBM, Docker, Chart.js, Pandas, Scikit-learn*

[Github](#)

- Engineered a full-stack, end-to-end **quantitative trading pipeline**, featuring a modular backend with an **object-oriented architecture** and a multi-asset **backtesting engine** to evaluate strategy performance.
- Developed a **factor-based ML strategy** using LightGBM on normalized panel data and deployed the system as a **containerized Flask application** with an interactive Chart.js dashboard to the cloud.

ACHIEVEMENTS

- **Top 10 Finalist** in the prestigious Pan-IIT PIWOT Hackathon 2025.
- **Treasurer of the Interact Club** of GHS - Successfully organized multiple events and led finances.
- **First place** in the Flutter Workshop conducted by GDG.
- Won **45+** elocution, dramatics, aptitude and art competitions.

TECHNICAL SKILLS

Languages: C/C++, Python, Java, SQL, HTML/CSS, JavaScript

Technologies: React.js, Node.js, Express.js, MongoDB, PostgreSQL, MySQL, Pandas, NumPy, Flask, Machine Learning, Scikit-learn, Tensorflow, GenAI, Gemini API, LangChain

Developer Tools: Git, AWS, Docker

Soft Skills: Problem solving, Public Speaking, Leadership, Communication, Team Collaboration