

# Ruchi Mali

## AI / ML Engineer

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### ➤ Projects:

- Computer Vision Novel Methods for Handwriting Analysis to detect psychological and behavioural problem and aid the counselling process.

2023 - Python. OpenCV.

- Implementation of Novel CV Methods for identifying features of Handwriting and Classifying them into groups of psychological and behavioural problems to aid the counselling process in Schools. Used Unsupervised learning (K modes and KNN), **real data collected from a school**.

- Association Mining implementations

2022 and 2023 – Python. Python Packages

- Novel method for optimising Apriori Algorithm.
- Implemented Apriori and FP Tree on different datasets.

- Genetic Algorithm and Ant Colony Optimisation

2022 – Python.

- Scratch development of Genetic Algorithm and Ant Colony Optimisation.

- Relation on Reading Quotes and Emotions

2022– Python. Statistical Analysis. Google Forms

- On ground collection of data with questionnaire and finding support for the hypothesis, “Positive Quotes influence positive thoughts”.

- Recipe Generator with Deep Learning

2022 – Python. Flask. TensorFlow. Vue JS. MySQL.

- Conditional Transformer (Hugging Face) to generate Novel Recipes from the Ingredients given, a full end-to-end web application for generating recipes either from existing database or creating new ones with text generation. Full stack website.

- URL Phishing prediction

2022 – Python.

- Predicting if URL is phished or not with Random Forest Classifier and feature extraction methods.

- Solar Flare Prediction

2021 – Python. Python Packages. Notebook.

- Predict the possible regions of solar flares with SVM by analysing the rays data of sun.

- Other Projects in the domain of Algorithms, Blockchain, Networking, etc. Unpublished Research Paper in Psychology (Logic Based Therapy) and Heritage of Bombay (Bhandari Community)

### ❖ Languages

❖ English      Marathi

Hindi

French

### ❖ Certifications

- Participated in International Conference of Millets, Ruia College, Mumbai for Poster Presentation
- Beginner's French Credit Course
- Self-Enhancement through Logic Based Therapy Credit Course
- Heritage Walks Certificate Course
- Psychological First Aid

### ❖ Work Experience :

- **Research on topics**

(March 2025 – July 2025)

- Focused on researching and publication of ideas

- **A.I. engineer (Founding team)**

**Bhabha AI Pvt. Ltd. (startup)** (July 2024 – March 2025)

- Finetuning LLMs, with experiments, evaluation against benchmarks, used un-censoring techniques like **dpo, abliteration, kto**, etc.

- Many contributions in open-source project **Dataformer**.

- Conducted Blockchain mining for **Agentao** and **Condense-AI** (used agent architecture like Swe Agent, Network of multiple LLMS, prompt engineering etc).

- **Full stack AI** development with production server and scrapping for **notify gpt**.

- Developed **LLM Chat Simulations** in alt vibe project.

- Developed **Legal LLM**, (US UK and Europe scope) with extensive research and whole **score evaluation system** for international client.

- Created subsystem as in **wizardlm** research paper

- Huge **Synthetic dataset generation** with LLM using novel techniques.

- **Handled many client projects**.

- Utilized multiple AI platforms and AI models like **together, anthropic, deepseek, openai, gemini** etc.

- Worked on **GPUS**, sync requests, **cache optimizations, logging, Web To Slack notifications, llm compression techniques kvpress**, etc.

- Developed Model Inference Techniques like **cot** (chain of thought), **pvg** (Prover Verifier Games), **rto** (reinforced token optimization), etc.

- Developed test cases manual and automatic with **pytest**.

- Conducted **extensive research**, created multiple python scripts for varied tasks.

- Extensively used **run pod, modal, AWS remote servers, cursor, windsurf**.

- **AI and Data Science intern**

**Quantasis Pvt. Ltd.**

(December 2023 – April 2024)

- Worked on **image to text, voice to text, text to voice, LLMS, yolo, python, flask, APIs Testing, neural networks, OCR, data acquisition, NLP, RAG, Lang chain Framework, Aiding in Model Deployment on Virtual Machine, Optimizing code**

### • Awards/Honours

- The Late Sujata Pabrekar endowment Prize - 2023
- Felicitated - Topper in SSC(Social Science), HSC(Computer Science), BSC(Computer Science)
- Inter-Collegiate Poster Presentation 2nd Prize – 2023

### • Soft Skills

Public Speaking, Problem-Solving, Creativity, Leadership, Empathy, Teamwork, Adaptability, Listening, Critical Thinking

### • Hard Skills

Python, Researching, Data Structures, Algorithms, Artificial Intelligence, Machine Learning, Deep Learning, Data Science