

# PRATAP SINGHA

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## Objective

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As an AI enthusiast with over 2 years of internship experience in the field of Data Science And Machine Learning, my future objective is to embrace a challenging position where I can contribute innovative ideas, expand my skills, and drive benefits for the organization.

## Education

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### The Neotia University

**Jun. 2020 – Jun 2024**

*B.Tech in Computer Science and Engineering, CGPA: 8.67/10*

*Kolkata, West Bengal*

### Akshaynagar Kumarnarayan Madhyamik Sikshayatan H.S.

**2018 – 2020**

*Science, Percentage: 80*

*Kakdwip, West Bengal*

## Relevant Coursework

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- Data Structures
- Data Science
- Artificial Intelligence
- Data Analytic Skill Path
- Machine Learning
- Big Data and Hadoop
- Digital Image Processing
- Web Development

## Experience

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### AGIRT

**Dec 2023 – June 2024**

*AI Engineer*

*Remote*

- In this internship I was able to learn about many Generative Ai Model framework etc.
- In this internship worked with a team and took the leadership role in developing a Australian Law question answering LLM using Mistral 7B .
- local LLM,RAG, Langchain, Huggingface etc.
- Hands-on experience and Gained knowledge how to build LLM and RAG based system.

### Veunex

**Feb 2024 – Present**

*AI Engineer*

*Bengaluru, Karnataka, India*

- In this internship i am working with object detection model as well as LLMs and make many interesting projects.
- In this internship i am working on various types of LLMs and different type of object detection model as well as easyOCR to build various ai application .
- From this kind of many projects i have learned many things and may overall project experience around 1.6 year.
- Through this position i learned those skills YOLO, Mistral-7B, RAG, LLM, Faiss, LLaMA.

### University of Calcutta Technology Campus

**Jun 2023 – November 2023**

*Deep Learning Research Intern*

*Kolkata, West Bengal*

- Worked as a research intern at the University of Calcutta Technology Campus under the supervision of Dr.Himadri Nath Saha.
- Developed Deep Learning Model for Disease and Classification in Mung Bean and Mustered Plant and Achieved an accuracy of 99%.
- Successfully accepted for oral presentation at the ICSTA 2023 CONFERENCE.
- Successfully published in international conference.

### Sunstone

**Aug 2022 – Feb 2023**

*Block Chain Training*

*Remote*

- Hands-on Workshops and gained practical experience in blockchain architecture, smart contracts, etc.
- Gained experience in Remix ide, Ganache, and truffle.
- Worked with a team and took a leadership role in developing multiple projects on the Ethereum Blockchain using solidity.

## Projects

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### Cancer info Medical RAG LLM | *LLM, RAG, AI*

Feb - March 2024

- It is a AI based large language model that can able to fetch all the information about cancer along with lots of disease with the feasible solution.
- In this project i implemented Mistral 7b model and Biomistral model to build this ai application to get all the information about various type of disease mainly cancer.
- In this project i used the rag(Retrieval Augmented Generation) to reduce the hallucination and deploy it in aws bedrock.
- Skills: RAG Mistral-7B, Langchain, LLaMA, Qdrant, FastAPI, Aws Bedrock.

### Mung bean and Mustered Disease and pest Recognition System | *python, Deep Learning*

Jun - Sep 2023

- In this project i try to build a smart agricultural system so the farmer can easily detect the disease and pest.
- in this project i used various pre-trained model as well as custom model to get the good accuracy and predict good result around 99%.
- Through this project I was able to learn how to pre-process the images.

### Text To Song Generation LLM App | *Bark, RAG, AI*

March - April 2024

- In this project I build text to song generation llm app that can able to build song as per the user command.
- In this project I used open-AI and bark by suno-ai to build this application and get a good result results.
- Skills: Bark, RAG, Open-AI, FastAPI.

### Australian Law Question answering RAG LLM Deploy in AWS Bedrock | *Mistral, Fast API, RAG* February 2024

- In this project I used Mistral 7B model to implement RAG based question answering system .
- I got a very good response and its give all the answer in minimalist way with high security.
- I deploy it in AWS bedrock so that everyone can able to use it.

## Research

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### Semi-Supervised Disease and Pest Detection

06/2023 – 11/2023

*AKCSIT, The University of Calcutta Technology Campus*

*Kolkata, West Bengal*

- Worked as a research intern at the University of Calcutta Technology Campus under the supervision of Dr.Himadri Nath Saha.
- Developed Deep Learning Model for Disease and pest Classification in Mung Been and Mustered Plant and Achieved an accuracy of 99 Percent.
- Successfully accepted for oral presentation at the ICSTA 2023 CONFERENCE .
- Successfully Published.

### Pattern Recognition on Face Recognition Using Local Descriptor

11/2023 – Present

*Researcher and Team Leader, The Neotia University*

*Kolkata, West Bengal*

- Worked as a research intern at the Neotia University under the supervision of Dr.Deep Suman Dev.
- Developed Deep Learning Model for recognising faces using local descriptors and Achieved an accuracy of 85 Percent.
- Currently Researching the domain of face recognition with mask image.
- Paper under review process.

### Ai Based Code generating, Monitoring and Debugging System

2/2024 – Present

*Researcher and Team Leader, AGIRT*

*Online*

- Worked as a researcher and ai engineer in agirt our task is to provide advanced software solution.
- Developed cutting edge solution and data security on our product and developing ai model with high accuracy.
- Currently Researching the domain of artificial intelligence and generative ai and llm to build this application.
- Paper writing is ongoing.

## Technical Stack

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**Data Science/ Machine Learning/ Deep Learning:** Python, Data Visualization, Supervised Learning Algo, Unsupervised Learning Algo, ANN, CNN,EDA, Feature Engineering, Feature Selection etc.

**Mathematics ML and DL:** Algebra, Probability, Statistics, Calculus

**Python Packages and Frameworks:** Scikit-Learn, TensorFlow, Keras, Cloud vision API, NumPy, Pandas, SciPy, NLTK, LSTM, Hugging Face, LLM, RAG

**Web Development:** HTML, CSS, JavaScript

**Programming Language:** C/C++, Python, Java, SQL,NoSQL

**Databases:** MySQL, MongoDB

**Soft Skill:** Leadership, Teamwork, Good Communication

**Languages:** Native in Bengali, Hindi, English