

ARYA CHAKRABORTY

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EDUCATION

B.Tech., Computer Science and Engineering
Kalyani Government Engineering College

Graduating June 2024
9.3 CGPA

Relevant coursework: DBMS, Operating System, OOPS, Computer Networks, Pattern Recognition, etc.

TECHNICAL SKILLS

Data Analysis and Statistics: Google Data Studio, Pandas, Matplotlib, Plotly, Excel

Machine Learning and Deep Learning: Pytorch, Tensorflow, Sklearn, Numpy, OpenCV, BERT

Programming: Python, C++, C

Backend: Django, Flask

Database: MongoDB(Pymongo), SQL

EXPERIENCE

Ministry of External Affairs, New Delhi, India: Cyber Diplomacy Research Intern

January 2024 – Present

- Conducted a **comprehensive analysis** of cybersecurity and data protection policies of the entire World, leveraging both open-source and official frameworks. Also **identified comparative gaps** in India's digital landscape and developed strategic solutions for the Government.
- Analyzed India's engagement in the **international forum** in the digital domain and outlined potential benefits.
- Prepared an article regarding the draft agenda of the **India-Italy Cyber dialogue**.
- completion certificate**

Aarish Technologies, Quebec, Canada: Artificial Intelligence & Algorithm Developer

April 2023 – June 2023

- I assisted in developing a **Quantized Convolutional Neural Network**, aiming to optimize storage utilization (space complexity) while automating various tasks involved in the process.
- I converted a **Python PyTorch model** of a Convolutional Neural Network to **equivalent C code**, with the objective of accelerating the computation and making it **able to run on every hardware**.
- completion certificate**

Smollan, India: Data Analysis Intern

July 2022 – August 2022

- I conducted **spot checks** on the provided data using **Google Data Studio** and used graphs and charts to derive insightful observations.
- I developed a code that **generates random data** while preserving the variance and distribution of the data.
- I Had to scrape data from websites like Walmart, Bestbuy and a lot more with the help of a **selenium scraper** for collecting data for our client, **Google**.
- more details can be found on my **completion certificate**

ACADEMIC PROJECTS

Find My Garage

9th July 2023 - 10th July 2023

Lead a team of four to develop an **application** that helps **users to park their vehicles** while giving a platform for parking-lot owners to **showcase available parking spaces**. The entire procedure is seamless, transparent, and **automated**.

- I helped develop the Deep Learning model or the **Convolution Neural Network** which helps to **detect number plates** of Indian vehicles. Our **accuracy was better than pre-trained OCRs** like easyOCR, pytesseract and keras OCR, which took more than 10 seconds to detect the number plate, while **our model took 2 seconds**.
- The **cameras** (present at the entrance and exit), which will contain the **quantized neural network**, will detect the entrance and exit of the vehicle and calculate the time and cost of the parking.

- We used a technique called **quantization** which helps to **reduce the number of bits** required to store the weights, biases, slope, and intercept of the neural network. And by reducing the bits, **we can reduce the storage or silicon** in the camera required for the number plate detection, which in turn, will help us to **reduce the cost of the hardware** or the camera which will help us in the detection.
- This project helped our team secure **2nd** place in the **Hack4Bengal Hackathon**. The name of the project was Parkify, which was renamed to Find My Garage. More details can be found in the [devfolio project link](#).
- Link for the YouTube demonstration - [YouTube video link](#)
- Link to GitHub - [GitHub link](#)

Nirnayaak

25 February 2023 - 27 February 2023

Lead a team of four to create a **website** that helps legal authorities find **legal documents for reference**, facilitating faster judgment in courts in **India**.

- I helped develop the Machine Learning model which helps to **rank documents** in deprioritization for a search keyword.
- I also used APIs like **cohere** and **YAKE**(Yet Another Keyword Extractor) to generate a summary in the form of text for an entire legal document, to save time for the user.
- This project helped our team secure **2nd** place in the **Diversiion 2k23 hackathon presented by MLH**. More details can be found in the [devfolio project link](#).
- Link for the YouTube demonstration - [YouTube video link](#)
- [paper link](#)

ChumlyAI

December 2022

Made the **chatbot** for the GDSC KGEK website.

- used keyword extractor API to extract keywords and **pymongo** to fetch results from the database
- mostly **rule-based** solutions for queries, to reduce response time.
- used libraries like **logging**, **YAKE**, **Flask** and some algorithms specifically designed for answering queries related to GDSC KGEK.
- link for GitHub - [GitHub code link](#)
- link for YouTube video demonstration - [YouTube video link](#)

ACHIEVEMENTS AND KEYNOTES

Google Developer Students Club(GDSC), KGEK

June 2022 – June 2023

AI/ML Lead

- Tutored undergraduate engineering students about Machine Learning and programming, **organized speaker session events** and **Hackathons**. [certificate](#)

Hackathons

2022 – 2023

offline

- **Smart India Hackathon** Finalist, **2022**.
- **2nd rank** holder in [Diversiion 2k23](#) organised by **IEM Kolkata** and presented by **Major league Hacking**.
- **2nd rank** holder in the second edition of [Hack4Bengal](#) , (Eastern India's largest Hackathon).[certificate](#)

Coding Competitions

2022 – 2023

offline

- **4th Rank holder** in [h42](#) , Srijan '22 which is the tech fest of **Jadavpur University** , Kolkata.
- **1st rank holder** in [Swap and Code](#) , at the tech fest of **Techno International College** , New Town , Kolkata.

Links

2021 – 2023

website and DSA

- leetcode profile link(1000+ problems) - [leetcode](#)
- GFG profile link(100+ problems) - [GFG](#)
- Devfolio profile link - [devfolio](#)
- portfolio website link - [website](#)