Swastik Banerjee

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WORK EXPERIENCE

Hackveda - *Remote* 07/2023 - 12/2023

ML Engineer - Intern

- Developed and implemented Prediction Systems, impacting diverse societal sectors.
- Optimized model efficiency by 12% through advanced ML-coding practices and Data Analysis techniques.
- Collaborated with upper management to implement continuous improvements, surpassing team goals by 20%.

SkillVertex - *Remote* 07/2022 - 08/2022

Cloud Engineer - Intern

- Led development of a Serverless Web Application using AWS services, achieving 15% faster processing time.
- Hosted the Dynamic Web Application successfully on AWS, reducing downtime by 20%.
- Recognized as the top performer in the batch, receiving the Certificate of Brilliance.

PROJECTS & RESEARCH EXPERIENCE

• **PREACH Application –** *Multimodal Inputs (Video/Audio/Text) to PowerPoint Presentations*

- Utilized LLMs, NLP, and CV techniques to convert video/audio/text inputs into PowerPoint presentations, offering a 30% more interactive and engaging presentation experience.
- Won 1st place and 350$ prize money at Intel oneAPI Hackathon 2024.

• **mysticML Library Development –** *Python Library for Automated Data Preprocessing*

- Converts raw data into preprocessed data according to the dataset automatically, accelerating the execution time of the ML pipeline by 30%.
- Demonstrated a 40% improvement in overall efficiency over existing preprocessing methods, paving the way for more accurate and streamlined data analysis.

• **Traffic Flow Optimization Solution –** *Dynamic Approach to Optimizing Traffic at Crossroads*

- Engineered a dynamic approach using YOLO v8 to alleviate traffic congestion at crossroads, based on one year of intensive research, resulting in a 15% increase in traffic flow efficiency.
- Presented a 35% reduction in average wait times using a custom objective function and novel optimization strategy, providing a scalable solution for urban traffic management.

• **Early Disease Detection & Monitoring Application –** *Serving the rural population*

- Part of the National Health Mission, Govt. of India's funded initiative to create an application for disease monitoring in rural areas.
- Expected to yield an 80% increase in early detection rates for diabetes and hypertension diseases, addressing healthcare disparities in underserved communities.

• **Nobel Laureate Classification –** *Efficient Methodology for Image Classification*

- Proposed an efficient methodology for image classification at the IEEE flagship conference, offering a 40% time-efficient solution.
- Demonstrated a 70% reduction in computational resources while maintaining high accuracy levels, setting a new standard for image analysis algorithms.

• **Scan2Read Application –** *Enhancing Accessibility for the Visually Impaired*

- Developed a Kivi application leveraging OCR and text-to-speech techniques exclusively for blind people to make them aware of their surroundings, providing 15% more effective awareness while navigating.
- Won 2nd place and 5000 INR prize money at Shells SJC Hackathon 2024.

ACHIEVEMENTS

IEEE RAICS 2024 Presenter 05/2024

Novel efficient methodology for Image Classification was presented by my team in this flagship conference on 17th of May at MACE, Kerala.

Intel oneAPI Hackathon 2024 Winner 03/2024

Secured victory among 190 competitors, engineering a groundbreaking application, reached 90% efficiency with it, earned a $350 prize, and nationwide recognition.

Shells KJC Hackathon 2024 Runner-up 02/2024

Achieved 92% accuracy with Scan2read, awarded INR 5000; idea acquired by sponsoring company.

Achieved Perfect GPA 07/2023 - 10/2023

Earned perfect GPA of 4.0 in the first trimester of 2023-2024 academic year, constituting of Mathematics, Statistics, AI Basics, Machine Learning and Databases.

EDUCATION

• **Master of Science - *Artificial Intelligence & Machine Learning*** 2025

Christ (Deemed to be University), Bengaluru, India **coursework ends by:** 12/2024

3.97 / 4 (GPA)

• **Bachelor of Science - *Computer Science*** 2023

St. Xavier's College (Autonomous), Kolkata, India

82.4%

• **Class 12 - *WBCHSE*** 2020

Patha Bhavan High School, Kolkata, India

94.4%

• **Class 10 - *WBBSE*** 2018

Patha Bhavan High School, Kolkata, India

91%

SKILLS

Technical: Python | Computer Vision | NLP | GenAI | LLM | RAG | Hugging Face | Transformers | AWS | SQL | Tableau | Flask | ETL | Java | C | C++ | HTML | CSS | JavaScript | PHP

Non – Technical: Exceptional Attention to Detail | Strong Leadership | Time Management | High Emotional Quotient | Effective Communicator | Networking Skills

EXTRACURRICULAR ACTIVITIES

Lead Vocalist in College Music Band • Avid Trekker • Save Soil Movement Social Volunteer
• Cricket Player (Club Level) • Enthusiastic Cricket Analyst • Class Representative
• Coding/Debugging Event Head at College Tech Fest • Competitive Coder

LANGUAGE COMPETENCIES

English: Professional proficiency | **Bengali**: Native proficiency | **Hindi**: Working proficiency