SAPTARSHI BHATTACHARYA

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EDUCATION

B.Tech., Computer Science and Engineering, Kalyani Government Engineering College — June, 2024
Relevant Coursework: DBMS, Operating Systems, OOPS, Computer Networks, Pattern Recognition, etc.

GPA: 9.32

SKILLS AND TECHNOLOGIES

Data Science and Analytics: Jupyter Notebook, Pandas, NumPy, Matplotlib, Plotly, Tableau, MS Excel
AI/ML: Scikit-Learn, TF, PyTorch, OpenCV, CNN, RNN, LSTM, Recommendation Systems, Time Series Models, MCP
Programming Languages: Python, JavaScript, TypeScript, Java, Solidity, Bash
Web: FastAPI, Flask, MERN, REST APIs, JWT Auth, Supabase, Websockets
DevOps and Cloud: Docker, GitHub Actions, GitLab CI/CD, AWS S3, EC2, SageMaker, Boto3, Nginx/Apache, Solaris
Databases: PostgreSQL, MySQL, MongoDB, Redis, Oracle, PL/SQL

EXPERIENCE

Management Trainee — *October, 2024 – Present*
[RPSG Ventures] — *Kolkata, India*

- Developed and maintained CRM and billing pipelines across **5 cities**, **3 states**, and **38 lakh+ consumers**.
- Worked on ML models for **load forecasting** and **consumer segmentation** using usage patterns and complaint behavior.
- Designed **Voicebot** workflows integrated with **IVR systems**, and geospatial **outage detection** using CESC's **DTR-to-consumer mapping**.
- Secured **GitLab CI/CD pipelines** by integrating with **ManageEngine** in collaboration with the security team.
- Built **Dockerized microservices**, including [Health Monitor] and [URL Redirector]; explored **Kubernetes**.

Data Science Intern — July, 2022 - November, 2022
[Contelligenz] — *Hyderabad, India*

- Worked on **SageMaker** pipelines to pre-process and transform data, resulting in a **16x** improvement in efficiency.
- Analysed content database for **key metadata categories** , resulting in higher-quality **suggestions**.
- Built **high-accuracy ensemble models** for an **implicit recommender** system.

PROJECTS

[Parkify (Computer Vision)] ● [YouTube]

- Built an **AI-powered parking automation system** using **OpenCV** and a quantized **TensorFlow OCR model** for real-time number plate recognition, achieving a **15x speedup** in inference time.
- Developed the end-to-end **MERN stack application** with a seamless user flow for entry, allocation, and exit tracking.

[Portfolio Chat (Python, LLM, Gradio)] ● [Hugging Face]

- Fine-tuned a **LLaMA 3.2–1B** model on personal résumé & project data to build an **LLM-powered chatbot** for Q&A.
- **Linux-terminal-style interface** with **Vite + React** for real-time interaction, using **Ollama**, **vLLM**, **gradio** and **HF**.

HomeAI MCP (MCP, Gmail API, MongoDB) ● [EmailMCP] ● [CalendarMCP]

- Built **Model Context Protocol servers** to handle **Gmail** and **Personal Calendar** via **async JSON-RPC 2.0**.
- Implemented **email drafting**, **templating**, **sending**, and **calendar assistant** with robust tools and resource management.

ACHIEVEMENTS

- **Hackathons** – Finalist at **Smart India Hackathon 2022** and **2nd Place Winner** at **Hack4Bengal 2.0**, recognized for developing scalable civic-tech and infrastructure solutions.
- **GitHub Campus Expert** (Apr 2022 – Present) – Received GitHub **sponsorship** to host developer events across campuses.
- **Research Publication** – **C3IT 2024** – Co-authored *"Nirnayaak: Revolutionizing Legal Research"*, presenting an **AI-powered NLP system** to streamline legal document analysis and reduce judicial delays.