

Ayantanu Laha

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PROFESSIONAL SUMMARY

Software Engineer with 1+ year of experience in data engineering and AI solutions. Skilled in **BigQuery, Firebase, LLM integration, and building enterprise dashboards**. M.Sc in Computer Science with focus on Algorithm & Data Science.

PROFESSIONAL EXPERIENCE

Software Engineer

June 2025 – Present

SenSight Technologies Pvt. Ltd., Bangalore, India

- Architected and deployed a **Firebase-based notification infrastructure** serving **25,000+** active users across Android (FCM) and iOS (APNs), implementing silent push notifications and scheduled delivery with a **99.5% success rate**
- Implemented **BigQuery data pipelines** processing **100k+** records daily, powering real-time dashboards in **Amazon QuickSight** and **Looker Studio**
- Developed a **geospatial analytics platform** using **Shapely** and **Folium** for **100+** Indian highways monitoring zones, enabling geofencing for speed limit detection using **OSRM** and **HERE Maps APIs**
- Built and maintained **15+ interactive dashboards** for enterprise clients across multiple countries, integrating diverse data sources and implementing role-based access control (RBAC)

Software Engineer Intern

January 2025 – June 2025

SenSight Technologies Pvt. Ltd., Bangalore, India

- Developed an **AI-powered driver behavior analysis system** using **OpenAI**, generating personalized safety reports for **10,000+** drivers with **85%** positive feedback on actionable insights
- Created **custom Amazon QuickSight dashboards** with advanced KPI visualizations, reducing manual reporting time for operations teams

PROJECTS

RAG-Enhanced Cross-Lingual Retrieval: Bridging Bilingual Query Gaps

- Tools & Technologies: Pandas, NumPy, FAISS DB, Hierarchical Navigable Small World (HNSW) Algorithm, Hugging Face, LLaMA 3, Streamlit.
- Developed a cross-lingual Retrieval-Augmented Generation (RAG) system using FAISS as the vector database.
- Designed a cross-lingual retrieval system, improving search relevance for Bengali & English queries.
- Created relational mappings between Bengali and English content for improved cross-lingual retrieval.
- Link to Project:** GitHub

PDF Genius: Empowering Document Interaction with AI Chatbot

- Tools & Technologies: Python, Flask, React JS, MySQL, llama-2
- Developed a chatbot capable of processing and extracting information from PDF documents using natural language processing techniques. Integrated a user-friendly UI using React JS to enhance document interaction.
- Implemented search history functionality to allow users to track previous queries and easily revisit important documents.
- Designed quota management system to regulate user access and ensure fair usage of the chatbot's capabilities.
- Link to Project:** GitHub

TECHNICAL SKILLS

- Languages:** Python, C++
- Cloud & Data:** Google BigQuery, Firebase, Google Cloud Platform (GCP), Amazon QuickSight, MySQL
- ML & AI:** PyTorch, NLTK, Hugging Face, LLaMA, OpenAI API, FAISS, RAG Systems
- Data Analysis:** Pandas, NumPy, GeoPandas, Shapely, Folium, Data Visualization (Looker Studio)
- Web & Tools:** Streamlit, OpenStreetMap, HERE Maps
- Coursework:** Data Structures and Algorithms, Database Management Systems, Computer Networks, Operating Systems, Machine Learning, Deep Learning, Natural Language Processing

EDUCATION

Ramakrishna Mission Vivekananda Educational and Research Institute	Howrah, India
<i>M.Sc in Computer Science</i>	2023 – 2025
<ul style="list-style-type: none">• CGPA: 8.11/10.0• Gold Medalist — Ranked 1st in Computer Science• Relevant Coursework: Machine Learning, Deep Learning, Natural Language Processing, Database Management Systems, Data Structures & Algorithms	
Ramakrishna Mission Residential College, Narendrapur	Kolkata, India
<i>B.Sc in Computer Science</i>	2020 – 2023
<ul style="list-style-type: none">• CGPA: 9.61/10.0• Graduated with First Class with Distinction• Relevant Coursework: Data Structures & Algorithms, Database Management Systems, Operating Systems, Computer Networking, Theory of Computation, Computer Organization & Architecture	

ACHIEVEMENTS

- Solved **150+** problems on LeetCode and GeeksforGeeks
- Design Team Lead in college tech fest **Perceptron**