

Ayantanu Laha

✉ ayantanulaha@gmail.com | ☎ +91 9476169407 | 🔗 LinkedIn | 🐙 GitHub | 🌐 Portfolio

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 **Firestore-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

M.Sc in Computer Science

2023 – 2025

- 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

B.Sc in Computer Science

2020 – 2023

- 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**