# PRAJJIT BASU

**Email :** basuprajjit31@gmail.com **Phone :** +91-7818035955
**LinkedIn :** linkedin.com/in/prajjit-basu-6329b3284 **Github :** github.com/Bloop31

## Education

**Vellore Institute of Technology, Vellore** Aug 2023 – Present
B.Tech Computer Science (Data Science) **CGPA: 9.09/10**
*Coursework: Operating Systems, Computer Networks, DBMS, Machine Learning, OOP, Data Structures & Algorithms*
**Army Public School Kolkata** – Class XII (CBSE) **95%**
**Army Public School Mhow** – Class X (CBSE) **97%**

## Experience

**Software Development Intern – BISAG-N (Ministry of Electronics & IT, MeitY)** Jun 2026 – Jul 2026

- Contributed to the development of the **Food Inspection Testing System (FITS)**, an internal application for digitizing laboratory workflows for the Indian Army across **3 laboratories**.
- Designed a **normalized PostgreSQL database** with **42 tables** to manage application data and laboratory workflows.
- Converted **24 laboratory SOP workflows** into application workflows and corresponding database structures.

## Skills

**Languages:** Python, SQL
**AI & LLMs:** LLMs, MCP (Model Context Protocol), RAG
**Backend:** FastAPI, REST APIs, WebSockets
**Databases:** PostgreSQL, MySQL
**Tools:** Git, PgAdmin, Power BI
**Core:** Data Structures & Algorithms, Operating Systems, Computer Networks, DBMS, OOP

## Projects

**D2C Brand Health Tracker – Longitudinal Web-Scraped Analytics Pipeline** [GitHub]

- Developed a custom predictive modeling framework utilizing regression analysis (SciPy) to forecast brand vulnerability trends across 222+ dynamic product streams.
- Engineered an ETL pipeline scraping price, rating, and **222+ reviews** across **6 D2C skincare brands (12 SKUs)** using Selenium to bypass TLS-fingerprint bot detection, loading into a normalized **4-table PostgreSQL** schema with idempotent, deduplicating logic.
- Designed a **2-page Power BI** dashboard connected live via SQL views, surfacing price-vs-rating mismatches and brand sentiment trends.

**Agentic Quantitative Research Copilot – Financial Research Agent** [GitHub]

- Contributed to an agentic research assistant where a Groq LLaMA-3.3-70B model autonomously calls **MCP-based quant tools** to answer natural language financial queries with structured reports.
- Extended system with **Indian market support**, backtesting improvements, context shrinking to prevent LLM overflow, and timeout + fallback to Ollama for high availability.
- Layered **Redis (1hr TTL)** caching, MongoDB Atlas persistence, and **FastAPI WebSocket** streaming – reducing redundant yfinance API calls.

## Achievements

- **IEEE RECCAP 2026, IIT Palakkad** – Co-authored and presented research on an NLP-driven speech-to-action AI assistant for visually impaired users at an international IEEE conference.
- Collaborated with maintainers across open-source repositories, contributing **7 merged pull requests** through code reviews and Git-based workflows.; earned **Super Contributor** badge.
- **AIR 116, TES Entry** – Indian Army Technical Entry Scheme, a national-level competitive selection.

## Certifications

- **DeepLearning.ai** – Machine Learning Specialization
- **Oracle** – Generative AI Professional Certification
- **Google Analytics** Certification