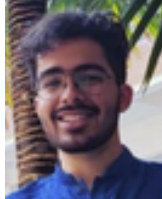# SONI ARYA

Software Development & Data Science Enthusiast | Expertise in ML, SQL, Python, Data Analytics

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https://github.com/aryasoni28 | https://aryaportfolio-mu.vercel.app/

EDUCATION

PES University
Bachelor of Technology in Computer Science and Engineering
GPA: **8.41/10.00.**
Relevant Coursework: Data Structures and Algorithms, Web Development, Operating Systems, Computer Networks, Big Data, Machine Learning, Data Analytics, Cloud Computing, Generative AI, Database Management Systems, Compiler Design
Awards: **CNR Rao Scholarship, MRD Scholarship (awarded to the top 20% students in the university), 2 Distinction Awards**

Bangalore, India
2022-2026

SKILLS

Languages: C++, Python, HTML5, CSS3, SQL
Databases: MySQL, MongoDB, SQL server
Big Data & Distributed Systems: Apache Hadoop, Apache Spark, Apache Kafka, PySpark
Data Science & ML Libraries: NumPy, Scikit-learn
Web Development: React.js, Node.js, Express.js
Version Control: Git, GitHub
Data Analysis & Tools: Excel

EXPERIENCE

Micro Orbit Consulting Services
Software Development Intern

Gujarat, India
May 2024-August 2024

- Engineered a user-friendly web application that streamlined design project submissions for a Belgian interior design firm, reducing submission errors and improving client satisfaction score by 0.5 points.

PROJECTS

1. **Developing Adaptive Self-Driving Cars Using Liquid Neural Networks and Reinforcement Learning**
   Ongoing — *CARLA, Liquid Neural Networks, DDPG, CNN*
   - Programming an adaptive self-driving system using Liquid Neural Networks and Reinforcement Learning, enabling real-time decision-making in 4 environments using 2 different methods, each consisting of 2+ models and 1 algorithm.
   - Working on a hybrid framework combining CNN-based semantic segmentation, Bayesian uncertainty analysis, and DDPG (Deep Deterministic Policy Gradient)-based RL.

2. **Retail Expansion and Inventory Intelligence Platform** — *Link*
   July 2025 — *Streamlit, Folium, Pandas, NumPy, Plotly, Seaborn, scikit-learn*
   - Built a geospatial ML pipeline to rank top retail store locations using 3 APIs and 2 models based on land price, population, income, and competition. Integrated Gemini API for Explainable AI and real-time interpretability.
   - Created stock prediction models using 10+ factors like census data, festivals, discounts, and past sales. Enabled real-time forecasts across 15 product categories, powering dashboards for 3 stores.

3. **A Practical Evaluation of Vector, Graph, and Hybrid RAG Systems** — *Link*
   May 2025
   - Designed and evaluated three RAG systems (Naive/Vector, Graph, Hybrid) using ChromaDB + Neo4j, quantifying performance with BLEU, F1, and precision@k to demonstrate Hybrid RAG's 20% higher accuracy over vector-only approaches.
   - Analyzed memory usage trade-offs, demonstrating how hybrid retrieval balanced speed and context preservation for real-world QA tasks.

4. **Yet Another Distributed Task Queue (YADTQ)** — *Link*
   November 2024 — *Apache Kafka, Redis, Python, Tkinter*
   - Developed YADTQ, a scalable task queue system supporting 20+ concurrent workers with retries, failure handling, and integration with backend, achieving high latency and high throughput.
   - Implemented a multi-queue task distribution in which a client can assign any of the 4 task types, decreasing average task completion time and increasing throughput.

CERTIFICATIONS

- Runner-up, Arithmenia 3.0 (Held at PESU RR campus)
- Participant, Healthack (Conducted at PESU RR campus)
- Hack4Soc participation (Carried out at RVCE)
- Override '22 participation (Organized at PESU EC campus)
- Runner-up, intra-college Badminton tournament
- Participant, Badminton state-level tournament
- Walmart sparkathon 2025 participation certificate

LEADERSHIP AND VOLUNTEERING EXPERIENCE

SAHAI INDIA
Design Team

Remote
March 2024-November 2024

- Crafted visual content for campaigns, social media, and promotional materials
- Collaborated with team to maintain a consistent and engaging brand identity