SONI ARYA

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Bangalore, India

2022-2026

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 System, Computer Networks, Big Data, Machine Learning, Data Analytics, Cloud Computing, Generative Al, Database Management System, Compiler Design

Awards: CNR Rao Scholarship, MRD Scholarship (awarded to top 20% students in university), 2 Distinction awards

SKILLS

Languages: C, C++, Python, HTML5, CSS3, Javascript, SQL

Databases: MySQL, MongoDB

Big Data & Distributed Systems: Apache Hadoop, Apache Spark, Apache Kafka

Data Science & ML Libraries: NumPy, SciPy, Pandas, Scikit-learn

Computer Vision: OpenCV

Web Development: React.js, Node.js, Express.js (MERN)

Version Control: Git, GitHub

EXPERIENCE

Micro Orbit Consulting Services

Gujarat, India

Software Development Intern

May 2024-August 2024

• Engineered a user-friendly web application that streamlined design project submissions for a Belgium interior design firm, reducing submission errors by 35% and enhancing client satisfaction ratings by 15%.

RESEARCH PAPERS & PUBLICATIONS

A Practical Evaluation of Vector, Graph, and Hybrid RAG Systems

Developed and benchmarked three RAG architectures (vector/ChromaDB, graph/Neo4j, hybrid) with quantifiable metrics (BLEU, F1, precision@k), demonstrating hybrid systems achieve 15-20% higher accuracy while analyzing latency-memory tradeoffs in real-world QA applications.

PROJECTS

1. Developing Adaptive Self-Driving Cars Using Liquid Neural Networks and Reinforcement Learning

Ongoing

CARLA, Liquid Neural Networks, DDPG, CNN

- Developing an adaptive self-driving system using Liquid Neural Networks and Reinforcement Learning for dynamic decision making.
- Designed a hybrid framework integrating CNN-based semantic segmentation, uncertainty analysis, and DDPG-based RL for efficient navigation.

2. Retail Expansion and Inventory Intelligence Platform

<u>Link</u>

July 2025

Streamlit, folium, pandas, numpy, plotly, seaborn, scikit-learn

- Developed a geospatial ML pipeline to rank optimal store locations using land prices, population stats, income data, and competition density, with Explainable AI (Gemini API) integration for model interpretability.
- Built stock prediction models using multi-factor inputs (census features, festivals, discounts, sales history), generating real-time forecasts and visual dashboards across 10+ product categories.

3. Code Mentor (Al Mentor Chrome Extension for Problem-Solving Platforms)

Link

June 2025

Javascript, Chrome Extensions (Manifest V3), DOM Parsing, HTML, CSS

- Developed a browser extension that assists users on platforms like LeetCode and HackerRank by offering progressive, non-intrusive Al-generated hints.
- Engineered DOM parsers, a floating UI, and OpenAI/Gemini integration to deliver adaptive, site-agnostic mentoring; enhancing user problem-solving without revealing full solutions.

4. Yet Another Distributed Task Queue (YADTQ)

<u>Link</u>

November 2024

Apache kafka, Redis, Python, Tkinter

- · Developed YADTQ, a scalable task queue system enabling concurrent execution with prioritization, retries, and failure handling.
- Optimized load balancing and dynamic worker assignment, reducing task delays by 30% while ensuring seamless integration.

CERTIFICATIONS

- Arithmenia 3.0 runner up certificate (Conducted at PESU RR campus)
- Healthack participation certificate (Conducted at PESU RR campus)
- Hack4Soc participation certificate (Conducted at RVCE)
- Override'22 participation certificate (Conducted at PESU EC campus)
- Runner up in intra-college Badminton tournament
- Badminton state level tournament participation certificate

LEADERSHIP AND VOLUNTEERING EXPERIENCE

SAHAI INDIA Design Team

Remote
March 2024-November 2024

• Designed visual content for campaigns, social media, and promotional materials

Collaborated with the team to maintain a consistent and engaging brand identity