Atharva Joshi

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github.com/AtharvaJ0802 | Portfolio

Education

Rochester Institute of Technology **Aug 2024 - May 2027**
MS, Computer Science (GPA: 4.0/4.0)
- **Coursework:** Foundations of Algorithms, Advanced OOP Concepts, Intro To Big Data, Computational Problem Solving

Savitribai Phule Pune University **Aug 2017 - May 2021**
Bachelor of Engineering, Electronics and Telecommunications (GPA: 3.78/4.00)
- **Coursework:** Machine Learning, Artificial Intelligence, Data Structures and Algorithms, Object Oriented Programming, Robotics

Technologies

- **Languages:** Java, Python, C++, MATLAB, VHDL
- **Web Technologies:** HTML5, CSS3, PHP, JavaScript, jQuery, MySQL, PostgreSQL, MongoDB, p5.js, three.js
- **Libraries and frameworks:** Matplotlib, Pytorch, NumPy, Pandas, React.js, Django, TypeScript, Next.js
- **Tools and Other Platforms:** Git, GitHub, Jira, Linux, AWS

Experience

Accenture **Jul 2021 - Jun 2024**
Software Engineer *Pune, India*
- **Led** data setup and batch execution for the **UK Branch Accounting** mainframe system, identifying recurring defects and **automating manual REXX processes**, which **cut operational time by 35%** and earned **2 'Star of the Month' awards**
- **Developed** and **deployed** end-to-end test automation scripts using **JCL** and **REXX**, **reducing testing time by 40%** and improving traceability across **14+ large-scale financial releases**.
- **Optimized** batch workflows with IBM utilities (**DFSORT, IDCAMS**) to streamline data processing, ensuring **100% on-time release delivery**.
- **Diagnosed** and **resolved** complex production failures in COBOL-based systems, enhancing reliability and **reducing downtime by 25%**.
- **Mentored** 2 new hires on COBOL, JCL, and VSAM; **delivered** multiple **KT sessions** to upskill team members and maintain project continuity.
- **Collaborated** cross-functionally with business analysts and client teams to troubleshoot integration issues, improving overall system performance.

Projects

Real-Time Event Analytics Platform | Github **Oct 2025 - Present**
- Built a **microservices platform** for event ingestion using Kafka, Python, and PostgreSQL, handling **500–1,000 events per minute** on a single-node setup.
- Deployed locally with Grafana dashboards to **monitor throughput, latency, and system uptime** on minimal resources.
- Implemented simple **event pattern analysis and alerts**, detecting anomalies in **real-time for up to 10 event types** with minimal CPU/memory usage

GitHub Archive Data Analysis System | Github **Sep 2025 - Dec 2025**
- **Built** and modeled a **large-scale datase**t of ~97M GitHub Archive events using both relational **(PostgreSQL)** and document-oriented **(MongoDB)** systems.
- **Optimized** complex SQL queries with **indexing** and **normalization** techniques, improving query performance by up to **50%**.
- **Developed** data-cleaning workflows and applied frequent itemset and association rule mining to **extract** meaningful developer-behavior insights.

Multi-Agent Tutor Bot | Github **May 2025 - Jul 2025**
- **Developed** an **AI-driven multi-agent tutoring assistant** using **Python, FastAPI, and Gemini API** for natural-language understanding.
- **Architected** a **main Tutor Agent** to classify user intent and **delegate** tasks to domain-specific agents (Math & Physics).
- **Integrated** custom tools like expression evaluators and physics lookups, improving **response accuracy by 30%** in simulated tests.

Autonomous Intelligent Vehicle (AIV) | Github **Aug 2020 - Jul 2021**
- **Built** an **autonomous indoor navigation robot** using **Raspberry Pi**, **PID control**, and **Dijkstra's algorithm** for real-time pathfinding.
- **Programmed** sensor-driven feedback and motor control via UART/CAN, achieving **±3 cm navigation accuracy**.
- **Implemented** adaptive decision logic for obstacle avoidance and direction correction in dynamic environments.

Publications

- Performance Evaluation and Comparative Analysis of AODV, DYMO, IARP, and IERP Routing Protocols in Ad Hoc Networks. E-ISSN : 2147-6799, Mar 2024..