

SHIVAM MISHRA

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CS undergraduate (AI/ML & DevOps coursework) with a primary focus on systems design, distributed systems, and microservices. Active CNCF open-source contributor to Meshery, with a track record of tracing bugs to their actual root cause — across Go, React, and Hugo — rather than patching symptoms, alongside infrastructure projects built for zero data loss and zero dropped frames under load.

EDUCATION

Dayananda Sagar College of Engineering (DSCE), Bangalore

Expected: July 2028

B.E. in Computer Science and Engineering — CGPA: 8.2 / 10.0

Coursework focus: AI/ML, DevOps • Primary interest: Systems Design, Distributed Systems, Microservices

EXPERIENCE

Open Source Contributor — Meshery (CNCF Cloud Native Project)

Jun 2026 – Present

github.com/meshery/meshery — Go server, mesheryctl CLI, React/UI, Hugo documentation site

- Merged a documentation fix restoring a missing extension icon on the Kanvas page (#20210); actively contributing across the Go backend, CLI, UI, and docs.
- Traced a UI regression (broken Settings tabs, 2 failing E2E tests) back through several merge commits to a single dropped import, then fixed and verified it end to end rather than patching the visible symptom (#20336, open, in review).
- Verified via the `mesheryctl` CLI that `component search` is missing a `--model` filter despite the backend already supporting model filtering (“ComponentFilter.ModelName”); implemented, tested, and validated a fix end to end.
- Diagnosed a documentation rendering bug (missing page headings on Hugo/Docsy section-index pages) down to the exact template line responsible, and filed a root-caused issue with reproduction steps.
- Restructured and shipped documentation changes matching existing project conventions after maintainer review — an intra-page table-of-contents for dynamically-generated model pages, and a shortcode reference guide for docs contributors (#20473, #20498, open, in review).

Deloitte Australia — Technology Job Simulation

Jun 2026

Forage Virtual Job Simulation

- Completed development and coding tasks in a simulated technology-consulting environment; designed a technical proposal for a client data analytics dashboard applying Python, data modeling, data visualization, and log analysis.

TECHNICAL SKILLS

Languages: Go, C/C++ (C++17), Python, Java, JavaScript/TypeScript, SQL

Frameworks & Libraries: React, FastAPI, Flask, OpenCV, YOLOv8 (Ultralytics), PyTorch, NumPy, Streamlit

Infra & Tools: Docker, Docker Compose, Kubernetes, Apache Kafka, PostgreSQL, Git, GitHub, Linux, Hugo

Concepts: Distributed Systems, Microservices, System Design, Multi-threading & Concurrency, DSA, OOP, DBMS, Machine Learning, Computer Vision

PROJECTS

Distributed AI Video Pipeline

Python · FastAPI · Apache Kafka · YOLOv8 · PostgreSQL · Docker

- Architected an event-driven microservice pipeline decoupling edge ingestion from neural-network compute via Kafka to guarantee zero dropped frames under peak backpressure.
- Implemented smart frame sampling (every 5th frame), reducing CPU load by 80%; deployed headless YOLOv8 inference nodes as Kafka consumers, containerized via Docker Compose with healthchecks across Zookeeper, Kafka, and PostgreSQL.

LSM-Tree Storage Engine

C++17 · Multi-threading · Concurrency · Systems Programming

- Built a high-performance embedded key-value storage engine from scratch in C++17, implementing the Log-Structured Merge-Tree architecture underpinning LevelDB and RocksDB.
- Engineered a thread-safe MemTable (std::shared_mutex read-write locks), Write-Ahead Logging for zero data loss on crash, and a background compaction engine for leveled SSTable merging.

Memory Corruption & Hardware Fault Simulator

Python · NumPy · Streamlit · Systems

- Co-developed (3-person team) a visual simulation tool modeling memory-level hardware faults — cosmic-ray bit-flips and stuck-at gate faults — bridging hardware-software interaction and fault-tolerance concepts.
- Built an interactive Streamlit interface for real-time fault injection and visualization of memory corruption patterns.

ACHIEVEMENTS & COMPETITIONS

- 3rd Place** — XYTHERA CTF, AWS Student Builder Club, DSCE (Team: BlackStar) — individual score of 4,950 points, highest scorer on the team; team climbed from outside the top 10 to 3rd overall.
- Flipkart GRiD 8.0** — National Engineering Challenge: cleared Rounds 1 & 2; advanced to the Round 3 Semifinal.
- Competitive Programming:** Codeforces (Rating: 1240) · CodeChef (Rating: 1569)
- CODE RED 3.0** — National-Level 24-Hr Hackathon, E-Cell BMSIT&M: advanced to and competed in Round 1 nationally.
- Leadership:** House Captain, DPS Azad Nagar — led inter-house coordination; MUN Delegate.