

# OMPRAKASH SAHANI

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## PROFESSIONAL SUMMARY

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Computer Science graduate with a strong interest in machine learning systems, distributed systems, and software engineering. Through independent study and hands-on projects, I have explored distributed training, performance engineering, benchmarking, observability, reproducibility, and AI infrastructure concepts. I enjoy approaching problems from first principles, understanding how systems behave under real-world constraints, and building reliable software that bridges machine learning and systems engineering.

## EDUCATION

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### SANJAY GHODAWAT UNIVERSITY

Kolhapur, MH

*Bachelor of Technology (B.Tech) | Major in Computer Science and Engineering*

Jul 2020 – May 2023

Cumulative GPA: 8.40/10.0 | US GPA Equivalent: 3.62/4.00 | First Class with Distinction

## WORK EXPERIENCE

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### ML Systems Engineer (Independent)

May 2024 – Present

- Designed and developed systems-oriented machine learning projects exploring distributed training, performance engineering, benchmarking, observability, reproducibility, and AI infrastructure concepts.
- Built and maintained ML systems projects focused on distributed training, scalability analysis, communication profiling, performance diagnostics, reproducible experimentation, and software reliability.

## PROJECTS

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### ATLAS AI | OPEN ML SYSTEMS PLATFORM

- Designed and developed an ML systems platform comprising 20+ interconnected components spanning training infrastructure, transformer systems, distributed runtime concepts, inference serving, observability, and benchmarking.
- Implemented autograd-based training workflows, transformer architectures, communication profiling, performance diagnostics, and reproducible ML experimentation.

### DISTRIBUTED TRAINING PROFILER

- Built a distributed training profiling and simulation framework for analyzing communication overhead, memory utilization, synchronization costs, and scalability bottlenecks in ML workloads.
- Implemented support for 4 collective communication operations alongside memory diagnostics, GPU fit analysis, and performance benchmarking workflows.

### ML REPRODUCIBILITY AUDITOR

- Developed a reproducibility auditing platform supporting 3 deployment modes (CLI, GitHub Action, and PyPI package) for evaluating ML engineering quality and reproducibility practices.
- Automated repository analysis across experiment tracking, dependency management, configuration control, documentation, and workflow reliability indicators.

### BENCHMARK GUARDIAN

- Built a benchmark regression detection platform for automated analysis of latency, throughput, memory utilization, and performance trends within software development workflows.
- Developed regression reporting, historical benchmark tracking, severity classification, and performance monitoring capabilities to support engineering decision-making.

## TECHNICAL SKILLS

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**Programming Languages:** Python, Java, C++, C, R, SQL

**Tools:** Git, GitHub, Linux, Docker

**Systems:** Distributed Systems, Distributed Training, Performance Analysis, Benchmarking, Observability, Scalability Analysis

**Machine Learning:** PyTorch, NumPy, Pandas, Scikit-learn, Deep Learning