SAKSHI TIWARI

Bangalore, India
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Education

Visvesvaraya Technological University **2022 – 2026**
Bachelor of Engineering in Computer Science *Bangalore, Karnataka*

Relevant Coursework

- Data Structures
- Software Engineering
- Algorithms Analysis
- Database Management
- Artificial Intelligence
- Machine Learning
- Computer Networks
- Parallel Programming

Experience

Mind Matrix **Jan 2026 – Present**
Software Engineer Intern *Bangalore, Karnataka*

- Built AI-powered Android features using Kotlin and cloud-based generative AI APIs, evaluating performance across 30+ real-world scenarios to improve feature reliability and usability.
- Validated AI-driven Android features across 25+ application workflows through functional testing, improving system reliability and reducing integration issues.
- Documented system architecture and AI feature behavior in 12+ technical reports, enabling clearer engineering collaboration and faster feature iteration.

MS Engineering College **Oct 2025 – Dec 2025**
Undergraduate Researcher *Bangalore, Karnataka*

- Designed a Python streaming pipeline processing 10k+ physiological events per minute, enabling real-time heart-rate monitoring for biomedical research.
- Co-authored a research paper on real-time heart-rate monitoring systems by developing a Python-based streaming analytics pipeline and experimental evaluation framework.

Projects

Low-Latency Distributed Async Web Crawler | *Python, asyncio, Redis, Docker, MongoDB*
∗ Engineered a distributed async web crawler using Python and Redis task queues to crawl 5K+ URLs with 40% reduced latency.
∗ Implemented asynchronous request scheduling with Python asyncio and non-blocking I/O, reducing page retrieval latency by 40%.
∗ Designed a Redis-based distributed task queue to coordinate multiple crawler workers, enabling scalable processing of 5K+ URLs with fault tolerance.

Real-Time Open Vocabulary Object Detection System | *Python, PyTorch, YOLOv8, Flask, Three.js, Docker*
∗ Built a GPU-accelerated real-time object detection pipeline using PyTorch and YOLOv8 enabling open-vocabulary recognition.
∗ Optimized GPU inference visualization using WebGL, achieving 30–60 FPS real-time object detection rendering.
∗ Evaluated YOLOv8 on 500+ images and containerized the inference service with Docker for portable deployment.

AI Messaging Automation Platform | *Python, Selenium, FastAPI, Redis, PostgreSQL, Docker*
∗ Built an event-driven messaging auto-responder processing 50+ messages/min using Redis-based asynchronous workers.
∗ Reduced response latency by 35% by implementing queue-based message processing and async Python services.
∗ Designed a conversation context store for 1k+ messages using PostgreSQL enabling personalized AI replies.

Publications

AI Based Heart Rate Monitoring System For Sports Person — International Journal of Scientific Research in Engineering and Management (IJSREM), 2025

Technical Skills

Languages: Python, Java, C, HTML/CSS, JavaScript, SQL
Tools: Git, Docker, Redis, MongoDB, MySQL
Cloud: AWS, Google Cloud Platform

Leadership / Extracurricular

∗ Competed in the Yandex Cup, an international algorithmic programming contest focused on advanced problem solving.
∗ Solved 150+ algorithmic problems across online judges with emphasis on time and space optimization.
∗ Contributed to community service and social outreach initiatives as part of the National Service Scheme (NSS).