Nilakshi Nagrale

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Summary

Software Engineer with **2 years of experience** designing **scalable, microservice**-based systems. Strong foundation in **NodeJS & React**, with a track record of achieving **99.9% system reliability** & reducing **API response latency by 30%** through strategic use of **Kafka & Redis**. Actively interested in **integrating AI/ML** capabilities into **backend systems**.

Experience

Volkswagen Group Technology Solutions | ***Software Engineer*** **Aug 2022 – June 2024**

- Designed **scalable microservices architecture** for global invoice document workflows using **Nodejs, React, PostgreSQL, & AWS**, improving **throughput by 35%** under high-concurrency workloads
- Built low-latency **RESTful APIs** using **FastAPI**, accelerating end-to-end processing workflows by **30%**
- Implemented event-driven data pipelines using **Kafka & Redis**, achieving **99.9%** message delivery reliability
- Improved backend quality through Test-Driven Development, **unit/integration testing**, reducing production defects by **20%**

Projects

BidSync: Real-Time Auction Platform | *Java, React/Typescript, PostgreSQL* **July 2025**

- Developed a real-time auction platform using **Java/Spring Boot & React**; utilized **WebSockets** to maintain latency under **150ms** for **50+** concurrent users
- Automated CI/CD pipelines using **Docker** and GitHub Actions, reducing deployment time by **90%** & improving release reliability

Hierarchical Summarization of Large Code Systems | *Python, PyTorch, Hugging Face Transformers* **April 2025**

- Fine-tuned CodeT5 on the CodeSearchNet **Python** corpus, improving function-level code summarization **accuracy by 12%**
- Evaluated long-context transformer models (LED, BigBird-Pegasus), analyzing accuracy–latency tradeoffs for repository-scale inputs, achieving a **BERTScore of 0.8576**

Multi-Thread CLI Image Processor | *C++* **Feb 2025**

- Developed a **C++** command-line image processing tool on **Linux**, implementing low-level binary parsing for 24-bit BMP files
- Enhanced throughput by parallelizing image processing across CPU cores, achieving a **2.77× performance improvement**

Technical Skills

Programming : JavaScript, Python
Backend & Distributed Systems : NodeJS, FastAPI, Apache Kafka, REST APIs, WebSockets
Frontend Web Development : React, Angular, HTML5, CSS3, Typescript, Vue.js, Figma
Cloud & DevOps : AWS (EC2, S3), Docker, CI/CD (Jenkins), Git, GCP
Database : PostgreSQL, MySQL, MongoDB (NoSQL), Redis

Education

University of Southern California **Aug. 2024 – May 2026**
Master of Science in Computer Science *Los Angeles, California, USA*

Mumbai University **Aug. 2018 – May 2022**
Bachelor of Science in Computer Science *Mumbai, India*

Achievements

- Secured **'Best Hack in Tech Domain'** at AthenaHacks 2025 for 'Commons,' a full-stack networking app with **AI-powered peer recommendations (Google Gemini API)**
- Awarded **'VW Group Essentials Award' (Top 0.2% of 1,400+)** for technical leadership & high-impact contributions (Q3 2023)