

NILAKSHI NAGRALE

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Summary

Software Engineer with **2** years of experience designing scalable, **microservice**-based systems. Strong foundation in **Python & C++**, 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.

Education

University of Southern California

Master of Science in Computer Science

Aug. 2024 – May 2026

Los Angeles, California, USA

Mumbai University

Bachelor of Science in Computer Science

Aug. 2018 – May 2022

Mumbai, India

Experience

Volkswagen Group Technology Solutions | *Software Engineer*

Aug 2022 – June 2024

- Designed scalable backend microservices for global invoice document workflows using **Python, SQL Server, & 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 and Redis**, achieving **99.9% delivery reliability** at scale
- 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 **2.77x performance improvement**

Technical Skills

Programming : Python, C++, JavaScript, Java

Backend & Distributed Systems : Node.JS, FastAPI, Apache Kafka, REST APIs, WebSockets

Cloud & DevOps : AWS (EC2, S3), Docker, CI/CD (Jenkins), Git, Linux, GCP

Database : PostgreSQL, MySQL, MongoDB (NoSQL), Redis

Frontend Web Development : React, Angular, HTML5, CSS3, NextJS

Core Competencies : API Design, Data Structures & Algorithms, Object-Oriented Programming (OOP), Agile

Achievements

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