Keerthan Gopalakrishnan

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Full-stack Software Engineer with a year of professional experience building scalable systems and deploying LLM-based AI agents. Three years of experience in building backend and frontend systems during college internships and part-time work. I thrive on solving **technically challenging, high-impact problems**.

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, C, C++, SQL, HTML/CSS
Technologies: Flask, Node.js, Kafka, MariaDB, React/Next.js, Supabase, REST, Spring Boot
Tools: Docker, Kubernetes, Digital Ocean, AWS/Azure, Terraform, Git, Linux
Domains: Applied AI Engineering, Backend Development, Full-Stack Development

EXPERIENCE

Intellify.ai   Dec 2025 – Feb 2026
AI/Backend Engineering Consultant (Remote)   *United Kingdom*

- Built a real-time AI-moderated group discussion platform with multi-user rooms and AI participants
- Designed low-latency audio orchestration using LiveKit, OpenAI, ElevenLabs, and Whisper, achieving <1.5s latency
- Implemented moderation and guardrails with backend integration (Node.js, Express, MongoDB)
- Load-tested LiveKit using Node.js + Puppeteer, simulating 500 rooms and validating scalability to 1,500 concurrent users supporting 15000 daily active users

Kraftx.ai   Jan 2025 – Nov 2025
Founding Engineer (Software Engineer)   *India*

- **AI Voice assistants for healthcare RCM | LangChain, FastAPI, Python, NextJS, Terraform**
  - Developed human-grade AI agents handling eligibility and benefits verification, prior authorizations, accounts receivable, and denial management (Healthcare Revenue Cycle Management).
  - Developed a dedicated voice stack using LiveKit and Deepgram for text-to-speech (TTS) and speech-to-text (STT), and LangChain for LLM orchestration.
  - Improved **system accuracy and reliability** from pilot to production by experimenting with multiple voice stacks (Retell, Vapi) and incorporating effective architectural elements from their frameworks.
  - Achieved **sub-1.5s interaction latency**, meeting human-acceptable standards for real-time responsiveness.
  - Built a Python-based **LLM evaluation framework** with 30+ multi-turn automated tests combining rule-based and LLM-as-judge scoring, with Langfuse and Allure visualizations enabling sub-2-min, **regression-free prompt iterations**.
  - Built a **benchmarking framework** to compare multiple STT and end-of-turn (EoT) detection models, evaluating latency, accuracy, and false-trigger metrics to guide model selection for production-grade reliability.
  - Engineered a scalable backend platform using FastAPI, Next.js, Kafka, Celery, and Redis, with 15+ REST APIs, CI/CD (GitHub Actions), and Terraform-provisioned Azure Container Apps/VMs ensuring cloud-native, reproducible scaling.

IoTReady.co   Jul 2023 – Dec 2024
Software Engineer Consultant   *India*

- **Delivery Executive Invoicing App (BigBasket) | React, Frappe, MariaDB**
  - Developed a full-stack application for a leading grocery delivery platform, enabling transparent tracking of driver earnings, incentives, taxes, and deductions.
  - Designed and implemented over 15 interactive pages using React and integrated 10+ APIs to support core functionalities, delivering the project within 3 weeks to meet urgent business requirements.

- Achieved significant adoption, with the application supporting over **100K+ active users** and around **2M views / month**.
- **IoT Edge Management Software (BigBasket) | Phoenix/Elixir**
  - Migrated IoT Edge Management Platform (Bodh) from Django to Phoenix/Elixir, optimizing it to handle 10,000+ devices with **40% faster response times** and improved throughput.
  - Enabled OTA updates by ID, batch, organization, and location, simplifying hardware tracking.
  - Achieved **100% test coverage**, fixing all test cases and enhancing system reliability.
- **Other Development Projects | React, Firebase, Supabase**
  - Developed a football skill-tracking system for MatchFives (Spain) to analyze player skills and team performance, with automated improvement emails.
  - Integrated Zoho with Supabase via Edge Functions and daily Cron Jobs for seamless data synchronization.

Neoscale.io   Oct 2022 – May 2023
Founding Engineer (Software Engineer)   *India*
- **Spends (iOS/Android) | Spring Boot, React Native, Plaid APIs**
  - Built a bill-splitting app using Plaid and Splitwise APIs to fetch transactions and split bills.

Cisco   May 2018 – Dec 2018
Research Development Intern   *India*
- **Young Talent Development Program | React Native, Firebase, Arduino**
  - Designed a cross-platform app with hardware integration to enable real-time location tracking for Alzheimer's patients, ensuring continuous monitoring and safety.
  - Implemented geofencing technology to define safe zones, triggering automated alerts to caregivers and authorities for swift intervention when boundaries are crossed.

COLLEGE PROJECTS (MAJOR)

- **Benchmarking Microservices (Capstone Project) | K8s, Kafka, Redis, Memcached, Python**
  - Created an automated framework to measure and benchmark microservices architecture solutions.
  - Automate microservices call graph generation, services simulation stub, and benchmark data.
  - Demonstrated using Alibab's Cluster Trace Program published data from production.
- **Distributed Load Testing | Kafka, Flask** – Testing a high load of requests on a web server; supports both tsunami and avalanche distributed load patterns.

ACHIEVEMENTS

- **CISCON (2025) | K8s, Kafka, Python, Cloud** – Presented the capstone project (titled *Trace_Driven_Framework_for_Generating_Realistic_Synthetic_Microservice_Interactions*) at CISCON 2025, demonstrating trace-driven modeling and benchmarking of cloud microservice workloads.
- **Hallaton PES (2022) | Java, Maven** – Developed a Java Maven Dependency Checker that checks upgrade dependencies.
- **Silicon Rush - IEEE PES (2022) | HTML, CSS, Javascript, Django, Embedded C** – Built a smart socket that can switch on/off the socket remotely, along with calculating power consumed by each socket with which we can estimate the cost of electricity per socket, also built a smart gardening and watering solution.
- **Aikya Hackathon (2022) | HTML, CSS, Javascript, Django, Embedded C** – Built a product that could detect if a child is molested and call the concerned authorities.
- **The Amateur Scientist (2017) | Embedded C/Arduino** – Built a wedge type PS3 controlled car whose main aim was to knock other cars out of the ring.

EDUCATION

PES University   2021 – 2025
Bachelor of Technology in Computer Science, CGPA 8.75