

# Shreekrishna Udupa

India | +91 7977350051 | [shreekrishnaudupa@gmail.com](mailto:shreekrishnaudupa@gmail.com)

[LinkedIn](#) | [GitHub](#) | [LeetCode](#) | [shreekrishna.tech](http://shreekrishna.tech)

## TECHNICAL SKILLS

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**Languages:** C++, JavaScript (ES6+), Java, C, Python

**Backend & Systems:** Node.js, RabbitMQ, Kafka, Websockets, LLVM, Compiler Design

**Cloud & DevOps:** AWS (EKS, Fargate, Lambda, S3, CloudFront), Docker, Kubernetes, GitHub Actions, Nginx

**Databases:** PostgreSQL, MongoDB, Redis, Oracle SQL, MySQL

**Networking:** Cloudflare Tunnel, Tailscale

**Frontend:** React, Tailwind CSS, Flutter

## PROJECTS

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### OBE (Outcome-Based Education) Automation System | *React, TailwindCss, Node.js, MongoDB, AWS*

- Architected and led the development of a scalable OBE platform for attainment analysis and academic report generation.
- Engineered a "one-click" generation engine for course, program, and student-level reports from raw academic data.
- Approved for deployment by SVKM's Mithibai College with an institution-wide rollout planned.

### Self-Hosted Portfolio Infrastructure | *Raspberry Pi, Debian, Nginx, Cloudflare, Tailscale* [shreekrishna.tech](http://shreekrishna.tech)

- Designed a high-availability, self-hosted infrastructure using a Raspberry Pi 4 cluster and Debian nodes.
- Implemented Cloudflare Tunnels for secure ingress, eliminating public IP exposure and hardening the network perimeter.
- Built an Nginx-based dynamic load balancer to route traffic across healthy backend servers.
- Established a private subnet using Tailscale to secure inter-server communication.
- Automated GitOps-based CI/CD using GitHub Actions, enabling seamless artifact deployment on successful builds.

### Online Coding Contest Platform | *React, Node.js, PostgreSQL, Docker, Kubernetes, AWS, Redis, RabbitMQ*

- Developed a distributed, microservices-based platform designed for high-concurrency competitive coding.
- Implemented horizontal and vertical scaling using Kubernetes and AWS EKS/Fargate to handle peak loads.
- Engineered fault-tolerant backend systems using database sharding, consistent hashing, and message queues.
- Integrated secure authentication using JWT, OAuth 2.0 and OIDC following zero-trust security principles.

### Anial — Object-Oriented Programming Language | *C++, LLVM, Flex, Bison*

- Designed and implemented a low-level, object-oriented programming language from scratch.
- Worked extensively on compiler design, language semantics, and LLVM-based code generation.
- Currently building Intermediate Representation (IR) to facilitate cross-platform compilation.

## FREELANCE EXPERIENCE

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### Cloud Infrastructure Migration

*Fitrich Spices - fitrichspices.com*

- Migrated on-premise infrastructure to a serverless AWS architecture using S3 and CloudFront.
- Configured SSL/TLS termination via AWS Certificate Manager and managed DNS routing through Cloudflare.
- Significantly improved site scalability, global availability, and reduced maintenance overhead.

### IoS CI/CD Pipeline Implementation

*Bskba - bskba.com*

- Implemented an automated CI/CD pipeline for a Flutter iOS application using Codemagic.
- Automated build, test, and distribution workflows, reducing deployment time and manual errors.

## EDUCATION

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### SVKM's Mithibai College

*Bsc. CS Major and Minor in Data Science*

Mumbai, India

2023 – 2027 (Expected)