

Shreyas Patange

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LinkedIn

Github

Leetcode

Portfolio

Experience

Skylark Labs

July 2025 – Present

SDE II

- Designed and built a **distributed, highly scalable system** for **RTSP/WebRTC** video ingestion and processing pipeline using **TypeScript, Go, OpenCV, FFmpeg, MediaMTX, and gRPC**, supporting real-time analytics and alerting with consistently **low latency** across hundreds of concurrent live streams.
- Developed and scaled **backend microservices** in **Go** and **Bun.js**, using **WebSockets, Redis Pub/Sub, and BullMQ** to handle real-time data flows, background task processing via **NATS JetStream**, and reliable inter-service communication.
- Implemented **Envoy** and **Traefik**-based load balancing for **gRPC** and **HTTP** services, improving routing stability, traffic shaping, and auto-scaling while enabling smooth A/B deployments with **Kubernetes** and **Docker**.
- Built a centralized **authentication, organization management, licensing, and Role-Based Access Control (RBAC)** system using **OAuth2, JWT**, and session-based access, shared seamlessly across dozens of internal services.
- Managed multi-region **AWS infrastructure (ECS, Lambda, RDS)** with **CI/CD** pipelines, **Terraform**-based IaC, and full observability using **Prometheus, Grafana, and Loki** for debugging and performance monitoring.
- Improved system reliability and event handling by integrating **AWS SQS/SNS** for distributed queues, and built the platform's real-time alerting stack (WebSockets, push, email, SMS).

Heliverse Technologies

Dec 2023 – June 2025

Tech Lead

- Developed an **AI-powered real-time voice agent** and **WhatsApp agent** using **LangChain, Twilio**, and custom **TypeScript**-based agentic frameworks for intelligent task automation, handling multiple workflows concurrently via **BullMQ**.
- Developed a **serverless microservice architecture** using **AWS Lambda** orchestrated through an **NX monorepo**, leveraging **DynamoDB** and **TypeScript** with **CloudFront** distribution via **Serverless Framework**.
- Optimized frontend performance leveraging **Next.js SSG** and **SSR** along with server actions for type-safe **RPC** calls.
- Architected and developed a scalable backend system with **NestJS, Prisma**, and **PostgreSQL**, featuring dynamic shift management, automated biometric attendance tracking, salary slip generation, and high-performance task/event scheduling with real-time notifications via **Firebase** and **WebSockets**.

Projects

GeoQuiz | React, Redux, Supabase, TypeScript, WebSockets

- Developed a **Street View**-based location guessing game with **single-player** and **real-time multiplayer** lobbies using **TypeScript, React**, and the **Google Maps Street View API** along with **Supabase**.
- Implemented **low-latency multiplayer** logic using **Supabase's WebSocket**-driven real-time database streams, enabling synchronized room state, competitive rounds, chat, reconnection logic, and robust failure handling.
- Integrated **Google OAuth** for seamless authentication and cross-session persistence.
- Designed **PostgreSQL**-backed geolocation datasets, scoring logic, and state synchronization across players.

Gor Programming Language | Go, Gin, React

- Built a **Turing-complete interpreted programming language** from scratch with a full **tokenizer, parser, AST representation, optimizer, evaluation engine, and interactive REPL**.
- Created an **online playground** allowing users to write and execute Gor code, visualize ASTs, and interact with the language through a **React + Gin** web interface.
- Implemented **concurrent request handling** to enable fast, isolated execution of user-submitted Gor programs.

Achievements

- Reached LeetCode **Knight** rank with a **2000+** rating and solved **1000+** questions.

Technical Skills

Languages: TypeScript/JavaScript, Golang, Python, C/C++, Rust, Zig, Bash, SQL

Frameworks & Technologies: React, Next.js, NestJS, FastAPI, Gin, Hono, Bun.js, GraphQL, gRPC, WebRTC, WebSocket, WebTransport FFmpeg, NATS, Kafka, RabbitMQ, Temporal, LangChain

Infrastructure & DevOps: Docker, Kubernetes, Traefik, NGINX, Terraform, Helm, Linux, CI/CD (GitHub Actions)

Databases: PostgreSQL, MySQL (Vitess), MongoDB, DynamoDB, ScyllaDB, Cassandra, Redis, etcd

Cloud Platforms: AWS (ECS, Lambda, RDS, S3, EC2), Cloudflare, GCP, Firebase, Supabase

Familiar: Java, C#, Spring Boot, .NET, Lua, WASM, ONNX, Onvif, NVIDIA Triton

Concepts: Distributed Systems, Consensus, System Design, Load Balancing, Microservices, Networking, Operating System's, Databases, Algorithms and Data structures, Machine Learning, RAG/AI Agents

Education

University of Mumbai (GPA: 9.30 / 10.00)

Bachelor of Engineering in Computer Science, with minor in Data Science

2020-2024

Thane, Maharashtra