

Shreyas Patange

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Experience

Skylark Labs

July 2025 – Present

SDE II

- Designed and built a distributed and 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 system 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 tasks using NATS Jetstreams, and inter-service communication reliably.
- Implemented Envoy and Traefik-based load balancing for gRPC and HTTP services, improving routing stability, traffic shaping, auto scaling and enabling smooth A/B deployments with Kubernetes and docker.
- Built a centralized authentication, organization, licensing, and Role based access (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 AI-powered realtime voice agent, WhatsApp agent using LangChain, Twilio and Custom typescript based agentic frameworks for intelligent task automation handling multiple workflows concurrently using BullMQ.
- Developed serverless microservice architecture using AWS Lambda orchestrated through NX monorepo, leveraging DynamoDB and TypeScript with CloudFront distribution via Serverless Framework.
- Optimized Frontend's leveraging Next.js SSG and SSR along with actions for typesafe RPC calls.
- Architect-ed 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 realtime database streams, offering 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