

# ANIRUDH MAKULURI

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## SUMMARY

Builder of developer tools, AI systems, and cloud infrastructure. Early engineer at a startup, helped scale a real-time collaboration platform to 12K+ users. Creator of SmartDeploy, a platform to analyze repositories, generate deployment infrastructure, and automate cloud deployments.

## EDUCATION

### M.S Computer Science

Arizona State University, Tempe, AZ (ASU)

August 2024 – May 2026

GPA: 4.00/4.00

### B.E. Electronics & Instrumentation

Birla Institute of Technology and Science Pilani (BITS Pilani)

August 2018 – May 2022

## TECHNICAL SKILLS

**Languages:** TypeScript/JavaScript, Python, Go, SQL, Java

**Frontend/Mobile:** React, React Native, Next.js, Zustand, TanStack Query, Redux, Tailwind CSS

**Backend/APIs:** Node.js/Express, FastAPI, REST APIs, WebSockets, Socket.IO, Microservices

**Databases:** PostgreSQL/Supabase, Firestore, MongoDB, DynamoDB, Neo4j

**Cloud/DevOps:** AWS (EC2, SSM, ECR, ALB, ECS), GCP, Docker, Terraform, GitHub Actions CI/CD, Kubernetes

**AI/LLM:** RAG, embeddings, vector search, LangChain, LangGraph, AWS Bedrock, TensorFlow, PyTorch

## PROFESSIONAL EXPERIENCE

### Shardings — Full-Stack Software Engineer (Early Engineering Team)

June 2022 – August 2023

- Scaled a real-time video conferencing platform across web and mobile to **12K+ users**, improving production reliability using React, React Native, Node.js, Firebase, and GCP
- Redesigned real-time session synchronization for stateless servers, preventing context loss for late-joining users by replaying **chat messages, polls, files, and shared meeting context** from Redis-backed state.
- Designed **15 reusable React + Tailwind components** across dashboard and meeting workflows, helping migrate the web app from legacy vanilla JavaScript to a responsive design system aligned with Figma specs.
- Integrated **Google Cloud Speech-to-Text** and **ChatGPT API** to transcribe and summarize live standups, eliminating **5 hours/week** of manual note-taking per team and making meeting recaps searchable.
- Owned Node.js backend services powering **35+ REST APIs** and **30+ WebSocket streams**; resolved critical WebSocket and media server incidents with **1 hour MTTR** while maintaining production reliability.

### Shardings — Software Engineer Intern

July 2021 – December 2021

- Streamlined **full payment gateway with Razorpay and Stripe integrations** supporting 3 pricing tiers (Basic, Standard, Pro); designed secure webhook handling, idempotency, and error recovery, handling 100+ transactions per month with 99% success rate.
- Introduced **Google Analytics** to track **8+ user interaction and error events** (room creation, joins, failures), improving **observability** into frontend behavior and enabling faster debugging of user-facing issues.

## PROJECTS

### SmartDeploy — Preview-Driven Deployment Platform

July 2025 – Present

- Introduced a deployment preview system (Next.js, Node.js) that helps users understand how their app will go live before deployment, including build steps, hosting target, routing, DNS, secrets, monitoring, and rollback.
- Automated AWS deployment setup by analyzing each repository and choosing the right hosting path: **ECS Fargate + ALB** for backend apps and **S3 + CloudFront** for static websites.
- Built a production-style release pipeline using **CodeBuild, ECR, ECS Fargate, ALB, S3, CloudFront, Route 53, Secrets Manager, and CloudWatch**, handling builds, DNS, env vars, health checks, monitoring, and rollback across **125+ tracked runs**.

### SD-Artifacts — Infrastructure Generation Engine

January 2026 – March 2026

- Developed a **LangGraph + AWS Bedrock** pipeline (FastAPI) that analyzes GitHub repositories, generates **Railpack-verified build plans**, and performs autonomous build repair with up to **3 validation retries**.
- Cut repeat-analysis overhead by **90%** using commit-scoped **Supabase caching**; shipped a read-only **MCP server** exposing analysis history, generated artifacts, and repair logs to AI agents.

### Hoplio — Secure Realtime Communication Platform

November 2023 – January 2026

- Engineered a **cross-platform realtime communication platform** with React Native, React.js, Node.js, Socket.IO, and Redis, achieving **sub-500ms interactions** across mobile and web while refactoring the backend for **stateless horizontal scaling**.
- Architected a **secure, offline-first synchronization layer** with end-to-end encryption, retries, and conflict resolution, ensuring **ordered, reliable consistency** under unstable networks and supporting an **AI assistant with semantic retrieval**.

## OPEN SOURCE & AWARDS

- Open Source (MOSS)** — Contributed multiple merged pull requests to **MOSS**, an open-source retrieval layer for AI systems, spanning Go SDK development, documentation improvements, and deployment-related bug fixes.
- 1st Place (Auth0 AI Agents) & 2nd Place (Google Track)** — Innovation Hacks 2.0, ASU (600+ participants), April 2026. Developed **TravelMate**, an AI travel companion with a real-time voice interface for itinerary assistance.