

# Ansh Bhalala

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## Education

### Arizona State University

B.S. Computer Science, Software Engineering concentration. NamU University Scholarship.

Tempe, AZ

Jan 2023 – Dec 2026

## Experience

### Founder and Software Engineer

2025 – Present

ORRN, multi-tenant manufacturing ERP (orrn.in)

Tempe, AZ

- Build and operate an ERP SaaS for aluminum extrusion plants: die management, inventory and lot tracking, dispatch, packing lists, LAN thermal label printing, role-based access, and a full audit trail.
- Fifth generation of an ERP I first shipped at Fourcubes in 2022. The original deployment is still in production and I maintain its encrypted offsite backups.
- TypeScript monorepo (Turborepo, Bun): React and TanStack on web, Expo React Native on iOS and Android, tRPC and Hono on Cloudflare Workers, D1 with Drizzle, shared Tamagui UI.
- Tenant scope is derived from the session and never accepted from the client. One permission matrix drives both server middleware and client gating. Admin impersonation is time-boxed and audited.

### Software Developer

Jan 2026 – May 2026

Parents Challenge

Colorado Springs, CO (Remote)

- Architected a scholarship fund management platform that replaced manual tuition disbursement workflows.
- Built role-based dashboards on WorkOS, NeonDB, and PostHog for audit-ready financial reporting; automated disbursements through the BILL.com API.

### XR Pod Operator

May 2025 – Present

Dreamscape Learn, ASU Enterprise Technology

Tempe, AZ

- Test, troubleshoot, and maintain VR hardware and software at peak university load. Designed a 3D-printed harness block (CAD) that fixed recurring USB-C signal integrity failures.

### Director of Technology

Jan 2025 – Present

sunhacks

Tempe, AZ

- Own the technical infrastructure for judging and operations serving 800+ participants and 30+ judges.

### Software Developer

May 2022 – Dec 2024

Fourcubes LLP

Surat, India

- Built the billing, data entry, and GST-compliant invoicing ERP that later became ORRN, and trained staff on it.
- Shipped a QR-code token system for product tracking and supply-chain traceability.

### Student Associate

Aug 2023 – Dec 2023

ASU Research Computing

Tempe, AZ

- Competed in IndySCC on the Sol supercomputer. Profiled and optimized scientific applications and presented results to industry judges.

## Projects

### orrn-spool Go, Gin, HTMX, Docker, SQLite, TSPL2

github.com/abhalala/orrn-spool

- Print spool for industrial TSC thermal printers: raw TCP on port 9100, priority job queue with retry, live printer health, webhooks, encrypted archival, JWT-secured REST API and HTMX UI. Shipped via Docker and GitHub Releases.
- Shipped LLM-backed label generation: natural language to schema-validated TSPL2, with constrained output and a deterministic fallback when generation fails validation.

### tlama Rust, Axum, Docker

github.com/abhalala/tlama

- Reimplemented the Ollama inference API in Rust: streaming token responses, live model discovery, and request routing across 50+ model backends, so existing Ollama clients run unmodified.

### D.O.R.I.S. Rust, WebAssembly, Cloudflare Workers, Durable Objects, D1

doris.bhalala.org

- Authored an edge architecture pattern: Rust compiled to WASM running Axum inside a Worker, Durable Objects for CPU offload and WebSocket fan-out, one-click CI/CD. Reference implementation is a Bitwarden-compatible server.

## Technical Skills

**Languages:** TypeScript, Go, Rust, Python, SQL, Java, C/C++, Kotlin, C#

**Frameworks:** React, TanStack, Next.js, React Native (Expo), SvelteKit, Hono, tRPC, Gin, Axum, Tamagui, Tailwind CSS

**Infrastructure:** Cloudflare Workers, D1, Durable Objects, PostgreSQL, SQLite, Drizzle, Redis, Docker, GitHub Actions, Linux

**Domains:** ERP and manufacturing operations, multi-tenancy and RBAC, payments (Stripe, BILL.com), LLM integration, inference APIs, thermal printing (TSPL2), HPC