ARUN MALLIKARJUNA

Full-Stack & AI Platform Engineer · Custom Agents · LLM Integration · System Design
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PROFESSIONAL SUMMARY

Full-stack engineer with 4+ years building and scaling production systems end-to-end, and 2+ years integrating LLM APIs into core product features. I design distributed, microservices-based backends; build custom AI agents and the system prompts behind them; run evals; and own architecture, reliability, and scaling. Strong across TypeScript/React, Node.js/NestJS, REST APIs, and SQL/NoSQL data modeling, with a track record of turning PRDs and customer problems into shipped features that solve them.

PROFESSIONAL EXPERIENCE

Senior Software Engineer — Tecnotree Convergence Jan 2024 – Present · Bengaluru, India

- Owned architecture and design — patterns, reliability, and scaling — of a rule-based Promotion Engine, serving as the team's go-to for technical decisions and enabling business teams to launch telecom campaigns with zero redeployment.
- Led production incident response across distributed microservices, debugging and resolving failures while sustaining 99.5% availability under high transaction volume.
- Ran end-to-end QA (SIT, smoke, UAT) and reviewed teammates' code against PRDs and requirements before release.
- Built REST APIs, reporting dashboards, and third-party integrations aligned to clear business and customer outcomes.
- Improved frontend performance ~30% through optimized React rendering and state management.

Software Engineer — Tecnotree Convergence Oct 2021 – Dec 2023 · Bengaluru, India

- Built scalable, high-performance Node.js REST APIs for high-volume transaction processing, using async concurrency to keep latency low under load.
- Contributed to the microservices architecture and design, improving end-to-end throughput and reliability.
- Translated a real customer problem into a shipped feature — configurable self-serve workflows for non-technical teams — cutting turnaround time.
- Optimized rule-evaluation logic to reduce per-request latency and improve efficiency.

PROJECTS

Folkgrove — Multi-Tenant HRMS Platform (Personal Project) TypeScript · Next.js · NestJS · Prisma · MySQL · Redis/BullMQ · Cerbos

- Architected a multi-tenant HRMS with isolated database-per-tenant across a 4-app Turborepo monorepo (web, control plane, API, background worker), spanning HR, payroll, leave/attendance, performance, recruitment, and analytics.
- Built a country-agnostic payroll engine with pluggable statutory rule packs (India, US, UAE, Singapore) and DB-driven rates so adding a country is configuration, not code; implemented proration/LOP, full-&-final settlement with gratuity, loans, flexible benefits, back-dated arrears, and multi-legal-entity runs.
- Shipped a no-code customization platform — custom fields, custom objects, a dynamic form builder, and workflow triggers — on an EAV model, with policy-based RBAC (Cerbos) and async job processing (BullMQ).
- Backed the platform with ~2,600 automated tests and strict end-to-end type-safety; Dockerized services, CI, and a mobile-friendly PWA.

Tailorwright — Open-Source AI Agent Platform Claude API · Next.js · TypeScript · Node.js · github.com/MrArun005/resume-tailor

- Designed, built, and open-sourced custom AI agents and authored the system prompts behind them — shipped in four forms (web app, Claude Code skill, subagent, CLI) from one shared agent core.
- Engineered the agent runtime: multi-step tool-calling, a delegated subagent, and a planner/executor loop that self-corrects on failure.
- Enforced a strict no-fabrication guardrail via structured-output schemas and retries, with a deterministic scoring core and evals to measure output quality; runs fully local (no API key, no server) and is SSRF-hardened.

Free Resume Pro — AI SaaS Platform Next.js · React · Node.js · Gemini API · Vercel

- Built a core product feature on the Gemini API — ATS scoring, job-description matching, and AI rewriting — using structured prompt engineering.
- Implemented JWT authentication and a privacy-first, zero-storage design; owned the full lifecycle solo and scaled it on Vercel.

Promotion Manager System — Internal Platform Node.js · React · Microservices · REST APIs

- Designed and built a scalable promotion-management system on a microservices backend with a real-time rule engine, letting non-technical teams configure campaigns without deployments.

Algorithm Visualization Platform — Personal Project JavaScript · React

- Built interactive, step-by-step visualizations of core algorithms and data structures, demonstrating strong DSA and complexity-analysis intuition.

TECHNICAL SKILLS

AI & Agents
LLM API Integration, Custom AI Agents, System Prompt Engineering, Multi-Step Tool-Calling, Agent Evals, RAG, Vector Search, Claude API, Gemini API

Languages & Frontend
JavaScript (ES6+), TypeScript, Python · React, React Native, Next.js, Tailwind CSS

Backend & APIs
Node.js, NestJS, Express.js, REST APIs, async/await & event loop, Prisma, BullMQ, Django, Flask

Databases
PostgreSQL, MySQL, MongoDB, DynamoDB, Redis · schema design

Architecture & CS
Microservices, Distributed Systems, System Design, Multi-Tenant Architecture, Design Patterns, Reliability & Scaling, Data Structures, Algorithms, Complexity Analysis

Auth, Security & QA
JWT, Firebase Auth, Clerk, Cerbos (policy-based RBAC), VAPT, SIT, Smoke, UAT, Automated Testing

Cloud & DevOps
AWS, GCP, Docker, CI/CD, Jenkins, Vercel, Railway

Methodologies
Agile, Scrum

EDUCATION

Bachelor of Engineering — Computer Science Maharaja Institute of Technology, Mysuru · 2021