SARTHAK GAUR

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EXPERIENCE

Tag-N-Trac Inc. *October 2023 - Present*
Senior Software Engineer — San Diego, CA

- Architected and built **TracFlow** from scratch, owning the workflow engine design and end-to-end development of a multi-tenant AI automation platform.
- Designed **durable workflow orchestration** for AI agents, external integrations, and human input, combining token-based DAG execution with asynchronous processing, persistent state, and failure recovery.
- Reworked **IoT gateway firmware** across hardware platforms, using concurrent BLE reads to cut device processing from **21.3 to 6.8 seconds** and adding remote diagnostics and failure recovery.
- Built **tenant-aware device transfers** that preserve ownership history and keep historical readings within the correct tenant context.
- Built **warehouse automation middleware** integrating label printers, barcode cameras, and AWS IoT, with stateful multi-frame barcode processing for printing and verification.

Minfy Technologies *April 2023 - August 2023*
Software Engineer — Wilmington, DE

- Reduced backend compute costs by **20%** by adding caching, request coalescing, and payload optimization across high-traffic mobile APIs.
- Built backend APIs powering a React Native medical-testing platform adopted by **10K+ users**.

Tollring *July 2020 - July 2021*
Software Developer — Noida, India

- Engineered a multi-threaded ingestion system scaling to **hundreds of thousands of Microsoft Teams calls and meetings per day** for enterprise analytics workloads.
- Built an **OAuth 2.0 and OpenID Connect** authentication service for Teams integrations.

PureSoftware *April 2019 - August 2019*
Embedded Developer — Noida, India

- Ported **Delve (Go debugger)** from x86-64 to AArch64, enabling Go debugging capabilities on Windows-on-ARM devices.

PROJECTS

Fractal *March 2026 - Present*
Real-Time Collaborative Drawing Canvas — https://fractal.skgr.dev

- Built and launched a **collaborative drawing canvas** with a Go backend, supporting shared drawing across nested zoom levels.
- Designed **durable operation logging and snapshot recovery** to preserve drawing state and session undo history across disconnects and server restarts.

Nebula Planner *August 2022 - August 2024*
Open-Source Academic Planning Platform — https://github.com/UTDNebula/planner

- Increased student adoption by **75%** by building a domain-rule validation engine for automated degree-plan verification.
- Led and mentored **10–15 open-source contributors**, coordinating architecture and onboarding.

SKILLS

Languages: TypeScript/JavaScript, Python, Go, Ruby, SQL
Infrastructure: Kafka, AWS, Docker, PostgreSQL, Redis, MongoDB, MQTT
Frameworks & Libraries: FastAPI, Celery, Ruby on Rails, Node.js, Next.js, React
Focus Areas: Distributed Systems, Event-Driven Systems, IoT Platforms, Performance Engineering, Workflow Orchestration

EDUCATION

The University of Texas at Dallas *August 2021 - August 2023*
Master of Science in Computer Science — Dallas, TX

Major: Systems · GPA: 3.6/4.0

Indian Institute of Information Technology, Sonepat *July 2016 - May 2020*
Bachelor of Technology, Electronics and Communication Engineering — Sonepat, India

GPA: 8.0/10.0