Saharsh Tibrewala

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Summary

Second-year Computer Science (AI) student at VIT Pune (GPA 8.9/10) with 20 merged pull requests into OpenTelemetry (CNCF graduated), Kubernetes SIGs and pandas, and 3 more open. Builds backend services and Bitcoin protocol tools in Go and Python. Seeking a Backend / AI Software Engineer Internship focused on distributed systems, developer tooling, and observability.

Technical Skills

Languages: Go, Python, Java, C++, SQL, Shell Scripting
Frameworks & Libraries: OpenTelemetry SDK, gRPC, REST APIs, Spring Boot (Beginner), pandas, NumPy
Tools & Platforms: Git, GitHub, GitHub Actions (CI/CD), Docker, Kubernetes, Linux, Bash, Cloud (OCI/AWS Basic)
Concepts: Data Structures & Algorithms, OOP, Distributed Systems, Observability, Concurrency, Unit Testing, API Design, Bitcoin Protocol, NLP, ML Algorithms, AI Concepts

Experience

Open Source Contributor — Kubernetes SIGs, OpenTelemetry (CNCF), pandas, SeedSigner *Go, Python*

- Found and fixed a quadratic scan in `kubernetes-sigs/resource-state-metrics` metric generation. A single pass over the resolved map cut its running time 99% and took allocations from 421 to 2 (#102, merged). Also cached Starlark compilation behind `sync.Once` so scripts compile once per resolver rather than once per object, for 67% less time there (#101, open).
- The `net/http` hooks in `otelc` run on every request, so swapping their map-based state for a typed struct and gating debug logging behind a level check cut hook latency 12% incoming and 6% outgoing (#1137). A second pull request skips the tool-file rewrite and `go mod tidy` when nothing changed, saving ∼1s a build, ∼16s on a cold cache (#1136). Both merged.
- In `opentelemetry-go`, replaced the two-pass `traceparent` decode with a reverse hex table that decodes and validates in one pass, taking 9% and 11% off `Extract` (#8739), and unrolled the trace and span ID hex decoders so the compiler can drop all 12 bounds checks, worth 33% and 28% at zero allocations (#8740). Both merged.
- Merged earlier: `Enabled()` guards across the OTLP-gRPC, OTLP-HTTP, and Prometheus exporters, skipping attribute work when telemetry is off (#7824, #7825, #7881, #7866); a 65-file `semconv` v1.37.0 to v1.39.0 migration (#7789); histogram buckets generated from `weaver.yaml` (#8015); tests for `Key.Emit()` and `Resource` merge (#7751, #7764); a spec overview update (#5112); and a Collector build fix (contrib #46467).
- Outside Go: merged a `check_array_indexer` documentation fix into pandas (#62573). Open in SeedSigner: custom BIP-32 derivation paths and Taproot (P2TR) multisig verification for the Address Explorer (#916, #927).

Projects

Sherlock — Bitcoin Chain-Analysis Toolkit *Go, REST API*

- Parses raw Bitcoin Core block, undo, and XOR files, then applies heuristics (common-input-ownership, change detection, consolidation, CoinJoin) to produce JSON and Markdown intelligence reports via a CLI and web API.

Coin Smith — BIP-174 PSBT Transaction Builder *Go, REST API*

- Builds spec-compliant PSBTs with greedy coin selection, vbyte-based fee-target enforcement, dust-aware change creation, and RBF/locktime handling; exposes a CLI and `POST /api/build` REST endpoint.

Chain Lens — Bitcoin Block Analyzer *Go, REST API*

- Computes transaction-level statistics (txid/wtxid, fee, vbytes, script classification) from raw block and undo files with XOR-key decoding; serves structured JSON through a REST API and web UI.

YouTube Shorts Pipeline — Content Automation *Python, GitHub Actions*

- Writes and ranks jokes via the Gemini API, generates speech and every frame, gates on a quality check, and uploads via the YouTube Data API v3 (OAuth 2.0); runs from GitHub Actions.

Certifications

- **Oracle:** OCI Foundations Associate; OCI Generative AI Professional — RAG, vector embeddings, model deployment. (2025)
- **Anthropic:** AI Fluency — Framework & Foundations; Claude 101. (2026)
- **Amazon Web Services (AWS):** AI Practitioner Challenge — Udacity. (2026)
- **Infosys Springboard:** Introduction to Artificial Intelligence; Introduction to Deep Learning; Introduction to Natural Language Processing. (2026)

Education

VIT Pune — B.Tech in Computer Science (AI) *2025 – Present*

- Second Year — Current GPA: 8.9 / 10

AECS 3, Tarapur — CBSE Class XII (87%) *2025*

Achievements & Awards

- **Linux Foundation LiFT Scholarship 2026 (Shubhra Kar):** Awarded a course and certification-exam scholarship by the Linux Foundation.
- **Summer of Bitcoin 2025 — Proposal Round:** Cleared 4 eliminatory rounds (screening, protocol bootcamp, open-source phase, proposal) from thousands of applicants.
- **LFX Mentee Finalist (Linux Foundation):** Selected for a maintainer technical interview from a global applicant pool.
- **Google Big Code 26:** Ranked top 15,000 nationally by clearing the Qualifying Round.

Competitive Programming

- 350+ DSA problems solved on LeetCode; CodeChef 3-Star (max 1741); Codeforces Pupil (max 1295).