

ATHARVA ARBAT

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SUMMARY

CS undergraduate (B.Tech, May 2027) who builds infrastructure for multi-agent LLM systems: a fair-scheduling kernel with a proven service-gap bound, a 6-agent orchestrator for Shopify automation shipped during a 6-month internship, and an open-source identity protocol for autonomous agents. Strong systems engineering base in Go and C++.

EDUCATION

MIT World Peace University

B.Tech, Computer Science Engineering; CGPA: 8.25 / 10.0, no active backlogs

Pune, India

Expected May 2027

– Coursework: Operating Systems, Computer Architecture, Algorithms and Data Structures, Software Engineering Practice

EXPERIENCE

OVRT

Feb 2026 – Jun 2026

Founder

Remote

- Built a TypeScript **multi-agent orchestrator** coordinating 6 LLM agents that automate Shopify store operations for merchants
- Integrated **OpenAI, Sarvam AI, and the Vercel AI SDK** behind a secure Hono proxy with HMAC authentication; cut service latency 20% with connection pooling
- Developed a **24/7 monitoring agent** scheduled on BullMQ with LangFuse observability and exponential-backoff retries, processing thousands of store events daily

Vegapod Hyperloop

Aug 2023 – Aug 2025

Navigation and Control Lead

Pune, India

- Led a **9-engineer** team building real-time C++ control software that held **11 ms average latency** in live runs at European Hyperloop Week 2024 (Zurich) and 2025 (Groningen); placed 8th of 16 teams
- Designed a fault-tolerant binary protocol over UART and TCP with heartbeat and CRC16 error detection

PROJECTS

AgentKernel | Go, Multi-Agent Systems

github.com/atharvaarbat/agent-kernel

- Designed **Reconciled Virtual Time**, a proportional-share scheduling algorithm for concurrent LLM agents fanning out across multiple providers, models, and tools with per-call cost unknown until completion
- Modeled each agent as an OS-style process (context region, budget vector, capabilities) behind a mediated syscall interface, so no single agent can starve its siblings of token, request-rate, or dollar budget
- Built the Go runtime and evaluation harness; measured **0.9998 Jain fairness index** (vs. 0.162 for FCFS/round-robin) under 31:1 token-cost skew at **1,847 ns/call** scheduling overhead, tested up to 50 agents

LLM Code Review Agent | Python, OpenRouter API

github.com/atharvaarbat/llm-code-review-agent

- Built an agentic CLI that pipes git diffs through an LLM and returns **structured JSON reviews** (severity, line range, issue, suggested fix) for any programming language
- Cut token usage **35%** with hunk-level context chunking; reached **1.8s p95 latency** on diffs under 500 lines with retry logic and exponential backoff

Auth4Agent | Go, Ed25519, JWT

github.com/atharvaarbat/auth4agents

- Built an open-source **decentralized identity protocol for AI agents**: DID generation, Ed25519 keypairs, and challenge-response authentication where private keys never leave the agent, removing static API key risk
- Engineered scoped JWT issuance with **JWKS, nonce-bound replay protection**, offline verification, and deny-by-default operator authorization

TECHNICAL SKILLS

Languages: Python, TypeScript, Go, C++

AI Engineering: LangChain, LangFuse, OpenAI API, Sarvam AI, Vercel AI SDK, OpenRouter, multi-agent orchestration, tool calling, prompt engineering

Backend: Node.js, Hono, FastAPI, BullMQ, PostgreSQL, MongoDB, Docker, Linux

Core CS: Concurrency, Distributed Systems, Operating Systems, System Design

ACHIEVEMENTS

- Speaker, **DevConf.in 2026**: “Building Real-Time Control Software” ([watch talk](#))
- Competed at **European Hyperloop Week 2024** (Zurich) and 2025 (Groningen); placed 8th of 16 teams
- Solved **250+ LeetCode problems**: dynamic programming, graphs, trees, binary search