

DIVITH SELVAM

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SUMMARY

2026 AI & Data Science graduate with software engineering experience across backend engineering, LLM infrastructure, agent runtimes, and post-training. Builds reliable AI systems in Python and Go, spanning distributed inference, tool execution, observability, and backend infrastructure.

SKILLS

Languages	Python, Go, TypeScript, C#, SQL
AI / ML	PyTorch, vLLM, LLM Evaluation, Transformers, PEFT, QLoRA, TRL
Agents	Model Context Protocol (MCP), Tool Calling, Playwright
Systems	Kubernetes, Docker, PostgreSQL, Redis, Linux
Backend & Web	FastAPI, Django, NestJS, .NET, REST APIs, React, Next.js
Infra & Security	OpenTelemetry, Prometheus, Grafana, OAuth 2.0, OIDC, JWT, RBAC

PROJECTS

Durable Agent Runtime for Computer Use & MCP Dec 2025–May 2026

Python · Go · MCP · Playwright

- Engineered a durable computer-use runtime with event-sourced application state, checkpoints, retries, and crash recovery across MCP tool workflows.
- Secured long-running operations with explicit task state, scoped credentials, permission checks, human approvals, and isolated, idempotent execution.

Distributed LLM Serving Control Plane Aug 2025–Dec 2025

Go · Python · vLLM · Kubernetes

- Architected a multi-model vLLM control plane that routes streaming requests by tenant quota, replica load, and KV-cache state, with Redis and PostgreSQL for coordination and persistence.
- Hardened overload and rollout behavior with bounded queues, backpressure, circuit breakers, and canaries, then traced latency, cache use, and failover through OpenTelemetry.

AI-Assisted Incident Triage Platform Jun 2025–Aug 2025

Python · Go · Kubernetes · OpenTelemetry

- Instrumented a Kubernetes microservice testbed with metrics, logs, traces, deployment events, and controlled fault injection.
- Developed a triage pipeline that correlates telemetry, recent deployments, incident history, and service dependencies to rank likely root causes and assess remediation quality.

Tool-Use Post-Training & Evaluation Lab Mar 2025–Jun 2025

Python · PyTorch · QLoRA · TRL

- Created deterministic tool-use environments and synthetic trajectories for multi-step tasks, retries, dependency handling, and malformed arguments.
- Fine-tuned models with QLoRA and evaluated schema validity, tool selection, argument accuracy, task completion, and held-out tool combinations through controlled ablations.

EXPERIENCE

CHN Technologies, Software Engineer Intern | Coimbatore, India Dec 2025–Present

- Refactored React, Django, and NestJS service boundaries and REST API flows to simplify maintenance across the application.
- Redesigned PostgreSQL schemas and composite indexes after reviewing query patterns and affected workloads.
- Automated Docker build and release workflows in CI/CD, replacing manual deployment steps.

Wise Work, Software Engineer Intern | Bengaluru, India Sep 2024–Oct 2025

- Engineered reusable Blazor/.NET components for shared full-stack application workflows.
- Profiled SQL joins, indexes, and response payloads to identify query and execution bottlenecks.
- Shaped authenticated API and data workflows, contributing to API contracts and service refactoring.

LEADERSHIP & COMMUNITY

Independent Design Work 2026

- Published two themes in Xiaomi’s designer ecosystem, reaching **10M+ views and 2.3K followers** while refining interface and UX details.

Technical Mentorship Aug 2025

- Led practical sessions for interns on Git/GitHub, React, deployment, authentication, APIs, and documentation.

EDUCATION

SNS College of Engineering, B.Tech — AI & Data Science | Coimbatore, India May 2026