

Ahmed Thabet

Engineering Manager - Distributed Cloud Infrastructure & Platform Engineering

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Summary

Engineering leader with 10+ years building decentralized cloud infrastructure, custom operating systems, and developer platforms: from bare-metal OS design to Kubernetes orchestration at scale. 6+ of those years leading engineering teams, 3+ as an engineering manager, currently running multiple teams on a peer-to-peer cloud spanning thousands of nodes across 60+ countries.

Experience

Engineering Manager, Codescalers, Jan 2023 - Present

- Manage multiple engineering teams building the [ThreeFold Grid](#), a decentralized P2P cloud spanning thousands of nodes across 60+ countries.
- Own technical strategy, architecture, roadmap, and delivery across the full stack: a custom Linux-based OS, multi-language SDKs, a Terraform provider, and web dashboards.
- Run hiring, onboarding, and mentoring; set engineering standards for code review, testing, and release process across teams.

Software Development Team Lead, Codescalers, Jan 2020 - Jan 2023

- Led development of the Jumpscale cloud automation framework, the 3Bot virtual system administrator, and the Virtual Data Center (VDC) platform.
- Drove system architecture and hands-on development while owning code quality and on-time delivery for the team.

Software Engineer, Codescalers, Jan 2016 - Jan 2020

- Designed and built cloud tooling for VM lifecycle management, container orchestration, and infrastructure automation.

Freelance & Contract Work

- **Data Analyst**, Otlob.com, Jan 2018 - Mar 2018: built an audio-fingerprinting pipeline over large-scale video datasets to measure marketing campaign reach.
- **Web Developer**, Orascom Telecom, Jan 2010 - Mar 2010: built an internal PHP/CodeIgniter application for server-room environmental monitoring, replacing manual Excel workflows.

Selected Projects

Operating Systems & Core Infrastructure

- [Zero-OS](#): lead development of the custom Linux-based OS powering the entire ThreeFold Grid (Go).
- [ContentHive](#): content-addressed storage system inspired by IPFS (Go).
- [0-Disk](#): Network Block Device server with pluggable storage backends (Tarantool, Lua).
- [OpenVCloud](#): monitoring, alerting, and hardware health-checks for a libvirt-based cloud platform (Python).

Platforms & Developer Tools

- [KubeCloud](#): highly available Kubernetes platform on the ThreeFold Grid (Go, Vue.js, PostgreSQL).
- [VDC](#): Virtual Data Center with managed Kubernetes clusters, S3 storage, and Prometheus/Grafana monitoring (Python, Stellar, Ansible).
- [VDC Marketplace](#): one-click application deployment marketplace built on top of VDC.
- [AIBroker](#): AI gateway aggregating multiple LLM providers with MCP server integration (Rust, Go).
- [Terraform Provider](#): Infrastructure-as-Code plugin for provisioning on the ThreeFold Grid (Go).
- [TFRobot](#): mass-deployment tool for large VM fleets (Go).
- [Gridify](#): Heroku-like deploy tool for the ThreeFold Grid (Go).
- [Farmerbot](#): power-management and operations automation for grid farmers (Go).

SDKs & Frameworks

- *Go SDK*: primary SDK enabling delivery of multiple grid-based projects (Go).
- *TypeScript SDK*: web developer SDK for ThreeFold Grid integration (TypeScript).
- *JS-NG*: cloud automation framework (Python, Gevent).
- *JS-SDK*: Threebot application server built on JS-NG (Python).
- *EWf*: embeddable workflow framework for resilient, stateful multi-step processes (Go).
- *CRM*: CRM system for the ThreeFold Token Foundation (Python, Flask, GraphQL, PostgreSQL).
- *publishingtools*: web publishing framework for wikis, blogs, and websites (Crystal, Kemal, Svelte).

Infrastructure Tooling

- *AYS*: agentless Infrastructure-as-Code orchestration with an event system, background tasks, and service templates.
- *Go farmer*: cross-platform GUI for farm management (Go, Fyne). Additional: OAuth provider for Gogs, DMIDecode parser, GitHub-Gogs sync, and documentation generators for Jumpscale.

Open Source

Networking & Infrastructure

- *tcprouter*: TCP router with SNI-based routing (Go).
- *tfgateway*: ThreeFold gateway built on tcprouter and the CoreDNS Redis plugin.
- *coredns-redis*: Redis plugin for CoreDNS; *raqeeb*: PID 1 replacement and alternative to Foreman.

Python Libraries

- *pygundb*: GUN.js database server and client.
- *python-sonic-client*: client for the Sonic search backend.
- *pyparsec*: parser combinator library; *python-pcre*: PCRE bindings via ctypes; *flask_itsyouonline*: OAuth2 middleware for Flask.

Nim Ecosystem

- *nim-servy*: web framework; *nim-redisclient*: Redis client and parser; *nim-assets*: bundle assets into a single binary.

Tools & Applications

- *vscode-capnp*: Cap'n Proto extension for VS Code; *helloED*: pluggable, fast PyGTK text editor.
- *stellargui*: lightweight Stellar wallet; *raml2spore*: generate SPORE clients from RAML specs.
- *Pida IDE*: contributed the RegexToolkit and Pastebin plugins.

Publications & Translations

- *Nim Days*: book on practical applications and libraries in Nim.
- *Python: Extensive Guide*: Arabic programming guide.
- *Introduction to Ruby*: Arabic programming guide.
- *Translations*: PyQt4, PyGTK, Mono IronPython, and Cairo tutorials translated into Arabic.

Skills

- **Leadership**: team management, hiring, mentoring, technical strategy, roadmap and delivery ownership, architecture review.
- **Languages**: Go (Golang), Python, Rust, TypeScript, C, Nim, Crystal, Bash.
- **Infrastructure**: Linux, Kubernetes, K3s, Helm, Terraform/OpenTofu, Ansible, Docker, Prometheus, Grafana, CoreDNS, Nginx, Traefik.
- **Data**: PostgreSQL, Redis, MySQL, MongoDB, InfluxDB.
- **APIs & protocols**: REST, GraphQL, gRPC, Cap'n Proto.
- **Frontend**: Vue, Svelte, React.

Education

- **BSc in Electrical Engineering**, Helwan University, Cairo, Egypt, 2014.
- **Mandatory military service**, Egyptian Armed Forces, 2015 - 2016.
- **Languages**: Arabic (native), English (business proficiency).