

Nahom Zewdu Mirani

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EDUCATION

Bachelor of Science in Mechanical Engineering

Addis Ababa Science And Technology University

06/2027

Addis Ababa, Ethiopia

- **Relevant Coursework:** Data Structure and Algorithms, Fundamentals of Programming, Database Systems, Object-Oriented Programming

Data Structure and Algorithms

Africa to Silicon Valley (A2SV) - backed by Google

11/2023 – 11/2024

Addis Ababa, Ethiopia

- **A2SV, a Google-backed non-profit organization** committed to educating high-potential university students.
- A2SV placed 80+ students at top-tech companies such as **Google, Bloomberg, Databricks, Amazon.**
- **Solved 700+** problems on Codeforces and Leetcode.

PROFESSIONAL EXPERIENCE

Backend Engineering Intern – Team Lead

Eskalet LLC · Addis Ababa, Ethiopia | Go, MongoDB, Docker, JWT, Clean Architecture

07/2024 – 10/2024

Addis Ababa, Ethiopia

Guided a 3-person intern team to design, build, and deploy a scalable backend system — delivered **2 weeks ahead of schedule**

- Built secure, performant REST APIs in Go using **Clean Architecture**, tested with extensive unit and integration coverage
- Applied **JWT- and OAuth-based authentication**, reducing login time by **20%** and improving session reliability under load
- Reviewed and approved **15+ pull requests**, enforcing architecture standards and contributing to a 30% drop in code complexity and **65% boost in maintainability**
- Containerized services with Docker and collaborated on CI setup for staging deployment and team-wide dev consistency

PROJECTS

Nuvom – Python Task Queue | Python, SQLite, Prometheus, Hatch, MkDocs

Python task queue framework with plugin architecture, extensible backends, Prometheus observability, and developer tooling

- **Designed and executed a modular task queue system** supporting SQLite, File, and In-Memory backends with visibility timeouts, retry policies, and batch dequeuing; **powered 10k+ test and CI job executions**
- Engineered a plugin system with TOML/legacy config support, runtime dependency injection, and lifecycle hooks — enabling fully decoupled integrations for observability, authentication, and custom worker logic
- Constructed CLI tools for job inspection and queue introspection; **integrated Prometheus exporter** exposing 5+ real-time metrics (e.g., job duration, queue size, success/failure rates)
- **Handled release management for v0.10:** versioned packaging (PEP 621, Hatch), full Markdown-based docs (MkDocs + Material theme), changelogs, and automated **PyPI publishing**
- Emphasized testability, concurrency safety, and extensibility; **wrote 90%+ test coverage** and ensured compatibility across **Python 3.8–3.12**
- Demonstrated architectural ownership, deep backend knowledge, and dev experience akin to OSS-level systems like Celery and RQ

Multiplayer Drawing Game | Django, WebSockets (Channels), Redis, PostgreSQL, Docker

Real-time multiplayer drawing & guessing game built from scratch; scaled to support 200+ concurrent players across 30+ rooms

- Developed Django backend with **WebSocket support via Channels**, enabling **low-latency, bi-directional game communication**
- Designed a custom **round-based game engine** with timers, scoring, and word selection — **powered 1k+ completed game rounds** during testing and public use
- **Implemented Redis pub/sub system** to broadcast game state and chat across players with sub-100ms latency under load
- Used PostgreSQL for persistent player data, match history, and leaderboard tracking; **optimized full system for local and cloud deployment**