Dirshaye Faltamo

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Research Interests: Distributed systems and computer networks; scalable and reliable systems; performance modeling, simulation, and evaluation.

EDUCATION

Manisa Celal Bayar University — Manisa, Turkey
Bachelor of Science in Software Engineering — September 2022 - June 2026
- **Relevant Coursework:** OOP, Data Structures and Algorithms, Software Testing, Software Architecture and Design, Software Requirements and Analysis, Service-Oriented Architecture, Computer Networks, Database Management System.
- **Honors/Awards:** Turkish Government Full Scholarship - Top 1% in Ethiopian National University Entrance Exam (tuition + housing + stipend + transportation)
- **Undergraduate Research:** Discrete-event simulation and hypothesis-driven system evaluation under Prof. Dr. Akın Özçift.

Polytechnic Institute of Tomar — Tomar, Portugal
Erasmus+ Exchange Study program in Computer Engineering — Feb 2025 - July 2025
- **Relevant Coursework:** Operating Systems, Project Management, DevOps, Web Development, Intelligent Systems. Internet of Things.
- **Honors/Awards:** Sole department representative for Erasmus+ Exchange Program in Portugal

AddisCoder — Addis Ababa, Ethiopia
Computer Science bootcamp — Summer 2019
- **Relevant skills:** Selected for Harvard/Stanford staff-led bootcamp among 80 top Ethiopian high schoolers; built a strong foundation in Python and algorithms through collaborative coding challenges

EXPERIENCE

Software Engineer Trainee — Remote
Africa to Silicon Valley (A2SV) — Sep 2025 - Dec 2025
- Solved 300+ data structures and algorithms problems with a focus on **performance**, correctness, and trade-offs.
- Participated in peer programming and guided sessions, applying algorithmic reasoning to backend development tasks in Golang.

HackMIT 2025 — Cambridge, MA
MIT — September 2025
- Built a concurrent log-processing pipeline for JSON/JSONL/text data, emphasizing throughput, correctness, and structured extraction.
- Implemented parallel parsing and deduplication to support reliable observability from noisy, unstructured data.

Software Engineer Intern — Tomar, Portugal
FlyRobotics — June 2025 - August 2025
- Migrated a legacy system to Django + Wagtail CMS, improving API consistency, backend structure, and long-term maintainability.
- Designed reusable data models and collaborated with designers to support structured content workflows.

PROJECTS

OmniPrice — AI-Powered Dynamic Pricing System | FastAPI · MongoDB · Docker · AWS
- Implemented a pricing system combining heuristic optimization, asynchronous processing, and empirical evaluation.
- Built a multi-source data collection pipeline to support system evaluation under incomplete and noisy inputs.
- Evaluated system behavior through controlled experiments to analyze stability, scalability, and robustness under uncertainty.
- Provisioned AWS infrastructure with Terraform + GitHub Actions, supporting zero-downtime deployments and containerized service orchestration.

QuakeGuard — Earthquake Safety & Visualization Platform | Java · Spring Boot · PostgreSQL · React
- Developed a Spring Boot backend integrating real-time seismic APIs, geospatial calculations, and a PostgreSQL data layer optimized for real-time queries.
- Implemented building-risk scoring, user alerts, and community "felt report" ingestion using modular services, schedulers, and a clean domain-driven architecture.
- Built a React-based frontend with interactive maps and visualizations, connected through REST APIs and deployed as a fully containerized application.

GoMetrics — High-Performance Metrics Collection Agent | Go · Docker · Prometheus · Grafana
- Built concurrent system-metrics collectors in Go to support empirical performance analysis of running systems.
- Designed concurrent collectors and batching mechanisms using goroutines and channels to handle high-frequency metric streams efficiently.
- Exposed metrics endpoints to enable systematic performance monitoring and analysis.

SKILLS

- **Languages & Databases:** Python, Java, Go, JavaScript/CSS/HTML, C++, Bash/Shell, PostgreSQL, MongoDB, Redis.
- **Frameworks & Distributed Systems:** FastAPI, Spring Boot, React, RabbitMQ, Celery, Nginx, Concurrent programming.
- **Cloud & DevOps:** AWS, Docker, Terraform, GitHub Actions (CI/CD), Ansible, Linux, Prometheus, Grafana.
- **Languages:** English (Fluent), Turkish (Professional), Portuguese (Conversational), Amharic (Native), Wolaitic (Native)