Tamir Yirga
Software Engineer | Distributed Systems & AI

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EDUCATION

Northeastern University   Seattle, WA
Master of Science in Computer Science; GPA: 4.0/4.0   *Sep 2024 – July 2026 (Expected)*
- **Research (LLM Safety):** Built **1.9M-paper** curated corpus from 10M scholarly samples to test 3 LLMs; confirmed hypothesis that hallucination rates drop sharply with higher training-data prevalence
- **Teaching Assistant (Scalable Distributed Systems):** Mentored grad students, led office hours and code reviews
- **Coursework**: **Scalable Distributed Systems**, **Algorithms**, Program Design Paradigms, Machine Learning, Computer Vision

EXPERIENCE

Software Engineer Intern   Jul 2025 – Sep 2025
Canaria   *New York, NY*
- Built **analytics platform** with **multi-modal AI chat** (streaming, SQL export), **customizable dashboards**, geospatial maps
- Built **RAG text-to-SQL** service with adaptive prompting; achieved **98% accuracy** on complex PostgreSQL + PostGIS queries
- Engineered self-maintaining data pipeline with daily refresh and automated pruning to showcase recent data from **700M+** records
- Collected **metrics for observability** (latency, cache); integrated **A/B prompt testing** w/ satisfaction feedback + **Slack alerts**

Full Stack Engineer   May 2022 – Aug 2024
Scandiweb   *Riga, Latvia*
- Shipped features across **8 e-commerce platforms** (Magento + React) serving retail/B2B clients w/ **$50M+ annual revenue**
- Rebuilt **checkout + payment integrations** for multiple clients; cut cart abandonment by **18%** and boosted mobile conversions
- Led CMS refactor for **$15M retailer**, modularizing content blocks to cut page upgrade overhead by **50%** and ease maintenance
- Executed **platform upgrade**, refactoring **60%+ legacy modules** across 15 extensions, ensuring **full backward compatibility**

Full Stack Engineer   Apr 2021 – May 2022
Endubis Blockchain Solutions | GitHub   *Addis Ababa, Ethiopia*
- Architected secure **non-custodial** wallet with **client-side cryptography** and **real-time sync**, serving **7,000+ active users**
- Built **real-time sync** layer with **Firestore + WASM serialization**, enabling **stateless bot coordination** across platforms
- Boosted throughput **60%** via **UTXO caching + load-balanced APIs**; engineered **client-side validation** preventing tx failures
- Designed intuitive **Telegram bot UI** with **guided flows**, reducing friction and driving **3,000+ active users** with **balances**

PROJECTS

Distributed KV Database | *Java, Spring Boot, AWS ECS* | GitHub   Jul 2025 – Present
- Built distributed KV store with **quorum replication** and **vector clocks**; achieved tunable consistency across **5-node cluster**
- Validated consistency with **Jepsen-style tests**; simulated network partitions detecting **split-brain** and stale read anomalies

Real-Time Object Recognition System | *C++, OpenCV, PCA, Computer Vision* | GitHub   Sep 2025 – Present
- Built **real-time** recognition with **dual classifiers** (**Neural Nets + PCA**), achieving **100% accuracy** on **multi-object** frames
- Solved **rotation variance** via **quadrant analysis**, enabling **one-shot PCA** from **1 image/class** achieving **95% accuracy**

Distributed Ski Tracker | *Java, Spring Boot, RabbitMQ, AWS EC2, DynamoDB* | GitHub   Feb 2025 – Apr 2025
- Built event-driven tracker with **RabbitMQ**, **Redis** caching, and indexed **DynamoDB** tables; sustained **8K req/sec** throughput

Recession Foresight Models | *Python, Scikit-learn, React* | GitHub   Mar 2025 – May 2025
- Trained and compared **11 ML models** (Classic ML + Deep Nets); deployed model predictions via **FastAPI + React** dashboard

SKILLS

Languages: Python, Go, Java, SQL, JavaScript/TypeScript, C++
Backend & Messaging: Kafka, FastAPI, Spring Boot, RabbitMQ, Redis, SQS, gRPC
Data & Storage: PostgreSQL, MySQL, MongoDB, DynamoDB, Neo4j, Firestore, Elasticsearch
Cloud & Infrastructure: AWS (EC2, S3, Lambda, ECS, CloudWatch), Kubernetes, Docker, Terraform, GCP, Azure
Web & Tools: React, Node.js, GraphQL, Git, Linux
ML/AI: PyTorch, TensorFlow, Transformers, LangChain, scikit-learn, pandas, NumPy, MLflow

CERTIFICATIONS & LEADERSHIP

Certifications: AWS Cloud Practitioner Foundations (2024), Adobe Commerce Developer: Expert (2024), Azure AI Engineer (2021), Azure Fundamentals (2021), CodePath Advanced Technical Interview Prep (2025)

Leadership/Awards: Graduate Leadership Institute Fellow, Student Interest Group Leader (NU App Lab & NU Lead), Perplexity Campus Partner (Fall 2025), Research Apprenticeship Award (Fall 2025), Global Learners Award (Fall 2024)