

CONTACT

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RESEARCH INTERESTS

Machine Learning, Cybersecurity, Systems Programming, Applied Reinforcement Learning, Distributed Systems, Generative AI.

SKILLS & TECHNOLOGIES

**AI & Data Science**  
PyTorch, Reinforcement Learning, Kalman Filters, LLM Fine-Tuning, LangChain, RAG, NLP.

**Backend & Infrastructure**  
Python, C++, Java, AWS (EC2, S3), Docker, FastAPI, PostgreSQL, Distributed Systems.

AWARDS & IMPACT

Best Researcher Award

Awarded "Best Researcher" and "Best Poster Presenter" for undergraduate AI capstone project.

Top Rated Plus Engineer

Verified top 3% of technical talent on Upwork, maintaining a 100% success rate on enterprise ML deployments.

National Rank #140

Top 0.02% of 700,000+ students in the Ethiopian National University Entrance Examination.

SAMUEL ABATNEH

AI RESEARCHER & SOFTWARE ENGINEER

Incoming MS in Computer Science student with hands-on experience building backend infrastructure and deploying machine learning systems. I recently engineered an NLP-based threat detection model adopted by the Ethiopian government, and I am eager to apply that same focus on real-world problem solving to graduate research in Machine Learning, Cybersecurity, and Systems Programming.

RESEARCH & PROFESSIONAL EXPERIENCE

Undergraduate AI Researcher Sep 2023 – Jun 2024  
Addis Ababa University

- Engineered an NLP-based hate speech and threat detection system designed for real-time integration with social media platforms and telecommunication networks.
- Deployed the model for practical use, leading to its official adoption by the Ethiopian government to monitor and detect threats during live phone calls.
- Awarded "Best Researcher" and "Best Poster Presenter" out of the graduating cohort for exceptional methodology, defense, and societal impact.

Machine Learning & Backend Engineer Jan 2024 – Present  
Upwork (Top Rated Plus Freelancer)

- Fine-tuned and deployed Generative AI systems (LLMs, Text-to-Speech, Text-to-Image), orchestrating backend infrastructure using Python, AWS, and Docker containerization.
- Architected distributed backend systems benchmarked to support 10,000+ concurrent users, utilizing Locust for load testing and achieving 99.9% service availability.
- Implemented multi-provider LLM redundancy and advanced RAG architectures via LangChain, ensuring factual grounding and near-zero service interruptions.
- Leveraged GPU-accelerated computing to optimize high-throughput AI inference pipelines, reducing response latency from 30 seconds to under 300 milliseconds.

Software Developer & Algorithms Instructor Nov 2021 – Nov 2023  
Africa to Silicon Valley (A2SV)

- Served as an instructor for Advanced Data Structures and Algorithms, driving a 20% surge in student placements at top-tier global tech companies.
- Ranked in the top 6% of active problem solvers globally on LeetCode and Codeforces, successfully solving over 1,000 rigorous algorithmic challenges.
- Led the development of the "Atrons Digital Library" (1st Place Hackathon Winner), engineering an offline-first synchronization engine for educational access.

EDUCATION

M.S. in Computer Science (Admitted) Expected Fall 2026  
University of Texas at El Paso (UTEP)

B.Sc. in Software Engineering Oct 2019 – Jun 2024  
Addis Ababa University | GPA: 3.54 / 4.00

University Ranking: #1 in East Africa and #13 in Sub-Saharan Africa (QS World