

Liyu Getaneh Berhanu

linkedin.com/liyugetaneh | +974 55869512 | lberhanu@andrew.cmu.edu

EDUCATION

CARNEGIE MELLON UNIVERSITY
SCHOOL OF COMPUTER SCIENCE |
FRESHMAN
2026 - Present | Doha, Qatar

AWARDS

NATIONAL EXAM TOP SCORER (EUEE)

- Ranked top 0.01% / top 50 out of 580,000 national exam takers with a score of **571.91 / 600**.
- Scored a perfect **100/100** on the Physics exam

NATIONAL MATHEMATICS OLYMPIAD SEMI-FINALIST

- Placed top 3 (0.01%) out of 5000+ competitors in 1st National Mathematics Olympiad by EMPA

ADDIS TEENCODE HACKATHON 1ST PLACE | ALX ETHIOPIA

- Placed 1st place out of 200+ contestants.

SKILLS

TECHNICAL SKILLS

- Programming Languages:** JavaScript and Python
- Embedded Systems and Robotics:** Arduino and Raspberry Pi integration
- Hardware and Electronics:** Sensor calibration, motor precision, and actuator regulation
- Networking and IT Infrastructure:** Cat5e/6 routing and termination (T568A/B standards), ELV systems, and hardware diagnostics
- Web Development and Design:** Web infrastructure optimization, accessibility-focused redesign
- Data Analysis:** Iterative field testing, data logging, and as-built documentation, SPSS, Excel, SQL, Python

PROFESSIONAL EXPERIENCE

EXTRA LOW VOLTAGE SYSTEMS INTERN BEZEMACon PLC

07/2025 - Present | Addis Ababa

- Extra Low Voltage (ELV) Infrastructure:** Executed the installation and systematic testing of ELV systems across 5+ major construction sites.
- Network Engineering:** Routed and terminated 1000+ Cat5e & Cat6 network nodes following precise T568A/T568B wiring standards.
- Technical Documentation:** Authored and updated "as-built" documentation and blueprints.
- Engineering Shadow:** Shadowed senior engineers during more than 25 design and site reviews.

SUMMER PROGRAM INTERN | EMBEDDED SYSTEMS DEV.

INFORMATION NETWORK SECURITY AGENCY (INSA)

08/2024 - 01/2025 | Addis Ababa, Ethiopia

ARDUINO-BASED AUTOMATED MICRO-GARDEN SYSTEM | LEAD DEVELOPER

- Engineered** a smart irrigation and climate control system using C++ and Arduino, integrating soil moisture and temperature sensors to automate garden maintenance.
- Optimized** resource efficiency by tuning PWM-controlled actuators for fans and water pumps, resulting in a 25% reduction in water consumption.
- Achieved** a 40% acceleration in plant growth through precise calibration of sensor thresholds and real-time data-driven irrigation timing.

LEAD DATA ANALYST AND RESEARCH TEAM MEMBER

KOTEBE UNIVERSITY OF EDUCATION MENEILIK 1 SCIENCE SHARED CAMPUS

05/2024 - 10/2025 | Addis Ababa, Ethiopia

- Developed** a Python and SPSS analytical framework to process data from 500+ participants and 90 pharmacies, uncovering critical gaps in regional health awareness.
- Secured** a university research grant and delivered evidence-based findings on a 75% deficiency rate to national policy makers for healthcare intervention.

PROJECTS

AI AND ROBOTICS SUMMER PROGRAM | FULLY GOV'T FUNDED | 4% ACCEPTANCE RATE

ETHIOPIAN ARTIFICIAL INTELLIGENCE INSTITUTE

06/2024 - 10/2024 | Addis Ababa, Ethiopia

AGRITECH AUTOMATED SEEDER | LEAD DEVELOPER

- Technical Leadership:** Led a five member team to engineer an Arduino-Raspberry Pi automated seeder, integrating PID control for motor precision and Kalman filters to minimize sensor noise.
- System Optimization:** Developed control firmware in Arduino C & Python that increased planting speed by 3x, reducing seed placement error from 32% to 15%.
- High Level Presentation:** Selected to demonstrate the prototype to 400+ attendees, including the Prime Minister.

CYBER SMART INITIATIVE

FOUNDER AND LEAD ADVOCATE

06/2024 - Present | Addis Ababa, Ethiopia

- Leadership:** Founded a digital safety initiative that reached 1,000+ youth and secured 3rd place in Meta's Empowering Next Generation competition for innovative security advocacy.
- Technical Instruction:** Facilitated workshops and produced instructional content for a 500+ member community, training over 100+ attendees at ALX Ethiopia in practical defenses against phishing and password vulnerabilities.