Solomon Ferede Ezez

Passport: EP7619777

Date of birth: 23/06/1994

Place of birth: Wolaita Sodo

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CONTACT

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solomonferede

solomonferede **(Github)**

solomonferede

ABOUT ME

An experienced Electrical and Computer Engineering lecturer at Wolaita Sodo University with a strong academic foundation and industry expertise. I hold a BSc in Electrical and Computer Engineering and an MSc in Control Systems Engineering. My professional background includes hands-on experience in Ethiopia's electric power generation sector, enhancing the practical relevance of my teaching. Additionally, I am a certified software engineer from ALX, where I developed strong programming skills in Python and C, further showcasing my commitment to continuous learning and technical excellence. My combined engineering, programming, and software development expertise positions me as a versatile contributor to academia and industry.

WORK EXPERIENCE

Wolaita Sodo University Wolaita Sodo, Ethiopia

Lecturer in electrical and computer engineering
08/2022 – Current
- Designed, planned, and taught lectures based on curriculum requirements and exams.
- Collaborated with academic colleagues to develop new courses, incorporate curriculum changes, and develop research activities.
- Conducted individual and collaborative research projects to produce and publish articles in peer-reviewed journals.
- Participated in outreach activities undertaken by the department and school to promote and develop links with industry and community partners.

Wolaita Sodo University Wolaita Sodo, Ethiopia

Assistant lecturer in university
11/2018 – 11/2019
- Preparing and delivering lectures
- Assisting in grading and assessments
- Supporting students through mentoring and academic guidance
- Conducting research and preparing publications
- Participating in departmental meetings and activities

Ethiopian Electric Power Addis Ababa, Ethiopia

Junior Electrical engineer (Temporary Role During the COVID-19 Period))
10/2020 – 09/2021
- Designed, planned, and developed controllers.
- Conducted system analysis to ensure the safety and reliability of electrical transmission, substations, and distribution lines.
- Determined the appropriate types and arrangements of circuits, insulation, and circuit breakers in electrical systems.
- Tested equipment, machinery, and instruments to verify proper functionality.

AidRigs, Remote United States

Database Assistant
28/09/2024 – 20/11/2024
- Database Structuring & Setup: Design and establish the initial database structure.
- Data Population: Enter and organize spare parts information within the database.
- Testing & Validation: Perform initial testing of database reports, user experience, and structure.
- SQL Querying: SQL queries are used for data retrieval and management.

- Parts Research & Reconciliation: Verify and cross-reference spare parts information with physical and online sources.
- System Evaluation: Evaluate and recommend the most suitable database system for long-term use.
- Integration Support: Ensure compatibility with tools such as AirTable, Asana, Slack, Trengo, and Google Workspace.
- Price Calculation: Help compute spare parts pricing, taking into account freight, customs, and tax factors.
- Historical Data Management: Keep records of past quotes, pricing, and transactions.
- Report Generation: Create structured reports for management and operational purposes.

EDUCATION AND TRAINING

10/2019 – 08/2022 Bahir Dar, Ethiopia

Master Of Science Degree in Control System Engineering Bahir Dar University

- **Main Courses (Score)** - *Engineering Optimization(A+), Computer Controlled Electrical Drives(B+), Digital Control System(B+), Modeling and simulation of dynamic systems, linear system theory(A), Optimal control system(B) Nonlinear control system(B+), Intelligent control system(A-), System identification and adaptive control(B-), Multivariable and robust control(B)*

Website https://www.bdu.edu.et/ | **Level in EQF** EQF level 7 | **Thesis** Self Tunning Fuzzy-PID controller for Position Control of Two-Degree of Freedom Pneumatic Artificial Muscle Manipulator

09/2013 – 06/2018 Hawassa, Ethiopia

Bachelor of Science degree in Electrical and Computer Engineering Hawassa University

- **Main Courses** - *Fundamentals of Electrical Engineering (A+), Introduction to Computing(A+), Electrical Machines (A),* Electrical Workshop Practice I(A-), *Introduction to Control Systems(A-), Introduction to Power Systems(A+), Modern Control Systems(A-), Digital Signal Processing(A-), Embedded Systems(A+), Power Electronics and Electrical Drives(B+), Industrial Automation and Introduction to Robotics(C),* Neural Networks and Fuzzy Logic Control(A), Applied Modern Physics(A), Engineering Thermodynamics(A-), Electromagnetic Fields(A).

Website www.hu.edu.et | **Final grade** 3.76 | **Level in EQF** EQF level 6 | **Thesis** Design and Simulation of Vending Machine

07/2023 – CURRENT Nairobi, Kenya

Certificate in Software Engineering(Online) ALX Africa

Data structure and algorithm, Higher level programming(Python, C, JavaScript), Database managements

Website www.alxafrica.com | **Level in EQF** EQF level 5

01/07/2025 – 30/09/2025 Nairobi, Kenya

ALX Professional Foundations (3-Month Program) ALX Africa

- Digital literacy and use of essential digital tools
- Communication and interpersonal skills
- Teamwork and collaboration
- Professional workplace behavior and ethics
- Problem-solving and critical thinking
- Time management and productivity skills
- Remote-work readiness and virtual collaboration
- Leadership fundamentals
- Personal branding and career development skills

Website www.alxafrica.com

08/2022 – 10/2022 Nairobi, Kenya

ALX Virtual Assistant ALX Africa

Website www.alxafrica.com

20/08/2025 – 24/09/2025

AI for Developers II ALX Africa

- Advanced prompt engineering
- AI automation and workflow optimization

- Integrating AI into web and software applications
- Building intelligent tools using modern AI APIs
- Applied machine learning concepts for developers

LANGUAGE SKILLS

MOTHER TONGUE(S): Amharic

Other language(s):

English

Listening C1
Spoken production C1
Reading C2
Spoken interaction C1
Writing C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Digital Control System | Embedded Systems | Python | Matlab/Simulik | Rehabilitation Robotics | Sensor & Actuator Integration | Neural Network and Deep Learning | Design and management of a relational Database | Fuzzy Logic Control | Control Systems Engineering | Machine Learning | System Modeling & Simulation | Analytical Problem Solving | Team management tools (Asana, Trello) | Good Communication and Writing Skills | C and C++ programming

HONOURS AND AWARDS

2018 Hawassa University, Technology Business Incubation Center (TBIC)

Certificate of Participation in the 2017/18 Business Idea Competition and Incubation

I successfully participated in the business idea competition and incubation process at Hawassa University in 2017/18. I presented a business idea titled 'Automatic Groundnut Hatching Machine,' which won the competition and was incubated at the center for one year, demonstrating my dedication and commitment to innovation.

02/2018 Young Entrepreneur Exchange Project (YEEP)

Certificate of Participation - YEEP International Exposure Week

Recognized for successfully participating in the YEEP International Exposure Week held from February 4–10, 2018, in Hawassa, Ethiopia. This program brought together Ethiopian students and Swiss experts to improve and transform business ideas into feasible ventures through coaching sessions on various technical and entrepreneurial topics.

PROJECTS

01/2017 – 06/2017

Automatic Home Appliance Control Using Microcontroller

- Designed and implemented a system to control room light intensity based on occupancy using a **PIC microcontroller**.
- Utilized IR sensors to detect entry and exit of persons, triggering the microcontroller to adjust light intensity dynamically.
- Programmed the microcontroller in **C language** to process sensor signals and manage light intensity variations.
- Integrated two sets of IR sensors to count incoming and outgoing persons, ensuring accurate light control.
- Applicable in energy-saving systems for room lighting, air conditioners, and machine control.

07/2024 – 09/2024

ResourceGuard resource management.

ResourceGuard is a web application developed to streamline resource management for manufacturing companies. Key Features include
- Inventory Management: Tracks raw materials and finished products, minimizing stockouts and reducing excess inventory.

- Production Monitoring: Provides real-time insights on production lines to optimize output and reduce downtime.
- HR Management: Automates attendance logging, payroll calculations, and employee record-keeping.

Link https://github.com/solomonferede1/resource_gaurd

Automatic Ground Nut Hatching Machine

Designed and developed a machine powered by a single-phase induction motor to automate the hatching process of groundnuts. This system enhances efficiency, reduces labor, and ensures consistent quality in groundnut processing.

01/02/2025 – CURRENT

EEP Communication Portal (Web Application)

Project Summary:
Developed a digital communication portal for EEP to manage news articles, media monitoring, and weekly reporting, with a Python-driven backend to automate data processing and improve internal communication workflows.

Key Contributions:
- Developed backend logic using **Python** for handling news submission, media monitoring data, and automated weekly reports.
- Built RESTful API endpoints (Python) for content management and communication between the frontend and database.
- Implemented efficient data storage and querying using **Python + MySQL**.
- Created automation scripts in Python to streamline repetitive communication tasks and improve workflow efficiency.
- Integrated the Python backend with a React frontend for seamless user experience.
- Ensured scalable, maintainable, and clean Python code following modern development standards.

Links https://drive.google.com/file/d/1GoCpHb8ar7McrKVBbdsiwSvckCZUJ_OI/view?usp=sharing | https://github.com/solomonferede/eepcommunicationportal

RECOMMENDATIONS

Chala Merga Advisor

Ph.D. Assistant Professor Addis Ababa University, Addis Ababa, Ethiopia

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Yeshitla Hailu Supervisor

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Daniel Gosaye Co-worker

Lecturer of Electrical and Computer Engineering, Wolaita Sodo University, Ethiopia.

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HOBBIES AND INTERESTS

Professional Development

- *Programming and coding*
- *Robotics and automation*

- *Renewable energy research*
- *Data analysis and visualization*

Creative Interests

- *Photography*
- *Graphic design*
- *Video editing*

Outdoor Activities

- *Nature Exploration*
- *Traveling to new places*

Sports and Fitness

- *Playing football (soccer)*
- *Swimming*

Educational and Intellectual Interests

- *Reading (fiction, non-fiction, or academic topics)*
- *Exploring history or culture*

DRIVING LICENCE

Driving Licence: D1   24/12/2025 – 24/12/2027

PUBLICATIONS

2025

Adaptive Fuzzy PID Control of Two-DOF Pneumatic Artificial Muscle Manipulator for Rehabilitation

This paper presents an adaptive fuzzy PID control strategy for a two-degree-of-freedom pneumatic artificial muscle manipulator intended for leg rehabilitation. The proposed approach addresses nonlinearities and unmodeled dynamics inherent in PAM systems. Simulation results in MATLAB/Simulink demonstrate improved transient response, disturbance rejection, and robustness, highlighting relevance to rehabilitation robotics and medical technology.

Ferede Ezez, S., Merga Abdissa, C., & Bekele Leza, M. (Under review).

Authors Solomon Ferede Ezez; Chala Merga Abdissa; Melkamu Bekele Leza | **Journal Name** Engineering Reports (Wiley) |