

## Mehret Getachew Sime, Ph.D.

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### EDUCATION

Degree	Field	Institution	Year
Ph.D.	Industrial Engineering	Addis Ababa University (AAU), Ethiopia	2025
<a href="#">M.Sc.</a>	Industrial Engineering	Addis Ababa Institute of Technology (AAiT), AAU	2018
<a href="#">B.Sc.</a>	Industrial Engineering	Ethiopian Institute of Technology-Mekelle, Mekelle University	2015

**Doctoral Dissertation:** *AI-Based Defect Detection Model Development to Enable Zero Defect Manufacturing in Ethiopian Steel Industries*

**Grade:** Excellent | **CGPA:** 4.00/4.00

**Master's Thesis:** *Modeling Technology Diffusion to Integrate Medium Scale Clustered Manufacturing Industries Development*

**Grade:** Excellent | **CGPA:** 3.85/4.00

### ACADEMIC APPOINTMENTS

Position	Department	Institution	Dates
Assistant Professor	Industrial Engineering	Bahir Dar Institute of Technology (BiT), Bahir Dar University	Jan 2026 – Present
Lecturer	Industrial Engineering	Bahir Dar Institute of Technology (BiT), Bahir Dar University	2024 – Dec 2025
Lecturer	Industrial Engineering	Dire Dawa Institute of Technology (DiT), Dire Dawa University	2018 – 2024
Assistant Lecturer	Industrial Engineering	Dire Dawa Institute of Technology (DiT), Dire Dawa University	2015 – 2018

### RESEARCH EXPERIENCE

**Doctoral Research (2021–2025):** Developed an AI-based defect detection model to enable Zero Defect Manufacturing (ZDM) in Ethiopian steel industries. The research integrated machine learning techniques with manufacturing process data to predict defects in real-time, contributing to quality improvement in resource-constrained manufacturing environments.

**Master's Research (2017–2018):** Developed an agent-based model to simulate technology diffusion within clustered manufacturing SMEs. The model incorporated fuzzy logic to capture uncertain enterprise decision-making and demonstrated how institutional coordination accelerates technology adoption.

**PhD Research Fellowship (2023–2025):** Conducted research as a PhD Research Fellow at the Nuremberg Campus of Technology, Germany, sponsored by Addis Ababa University and SIDA. Collaborated with international researchers on advanced manufacturing and quality systems.

**PUBLICATIONS**

**Peer-Reviewed Journal Articles**

#	Citation	Journal	Year
1	Mehret, G.S., et al. "Data Analytics in Zero Defect Manufacturing: A Systematic Literature Review and Proposed Framework." DOI: 10.1080/00207543.2024.2382379	<i>International Journal of Production Research</i>	2024
2	Mehret, G.S., et al. "Application of Artificial Intelligence to Enhance Manufacturing Quality and Zero-Defect Using CRISP-DM Framework." DOI: 10.1080/00207543.2024.2407919	<i>International Journal of Production Research</i>	2024
3	Mehret, G.S., & Eshetie, B. "Analysis of Factors Affecting the Digital Maturity of Manufacturing Industries: Evidence from the Metal Sector in Ethiopia." 4(1), 1-14. ISSN 2795-3548	<i>ASRIC Journal on Engineering Sciences</i>	2023

**Manuscripts Under Review**

#	Title	Journal	Status
1	"Agent-Based Technology Diffusion Model to Enhance Integrated Development of Clustered Small and Medium Enterprises (SMEs)"	<i>Cogent Business &amp; Management</i>	Under Review

## HONORS, AWARDS, AND FELLOWSHIPS

Award/Fellowship	Institution/Sponsor	Year
PhD Research Fellowship	Nuremberg Campus of Technology, Germany (Sponsored by AAU & SIDA)	2023 – 2025
Doctoral Dissertation: "Excellent" Award	Addis Ababa University	2025
Master's Thesis: "Excellent" Award	Addis Ababa University	2018

## PROFESSIONAL SERVICE AND MEMBERSHIPS

Role	Organization	Dates
Technical Team Member	Ethiopian Quality Award Organization (EQA)	2025 – Present
Member	International Society for Industrial Engineering and Operations Management (IEOM)	2023 – Present
Officer, University-Industry Linkage	Dire Dawa Institute of Technology	2019 – 2020

## JOURNAL AND CONFERENCE REVIEWING

Journal/Conference	Number of Reviews
<i>International Journal of Production Research</i>	3
<i>Computers and Industrial Engineering</i>	1
5th International Conference on Industry 4.0 and Smart Manufacturing	1

## INDUSTRY EXPERIENCE AND EXTERNSHIPS

Role	Organization	Location	Year
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Externship	East African Bottling Share Company (Coca Cola)	Dire Dawa, Ethiopia	2020
Internship	Metal and Engineering Corporation, Metal Fabrication Industry	Addis Ababa, Ethiopia	2014

## PROFESSIONAL DEVELOPMENT AND TRAINING

Training	Institution	Year
Leadership Training	Ethiopian Management Institute	2023
Project Management Training	Dire Dawa University	2022
Kaizen and Entrepreneurship Training	Dire Dawa University	2022

## TECHNICAL SKILLS

Category	Skills
<b>Programming &amp; Software</b>	Python, R, MATLAB, NetLogo, SPSS
<b>Machine Learning</b>	Scikit-learn, supervised learning (classification, regression), CRISP-DM framework
<b>Data Analytics</b>	Statistical process control, predictive modeling, data visualization
<b>Simulation</b>	Agent-Based Modeling (ABM), fuzzy logic systems
<b>Quality Systems</b>	Zero Defect Manufacturing (ZDM), defect detection, quality control
<b>Methodologies</b>	AHP (Analytical Hierarchy Process), CRISP-DM, systematic literature review

## LANGUAGES

Language	Proficiency
Amharic	Native
English	Full Professional Proficiency (written and spoken)

## TEACHING EXPERIENCE

As a Lecturer and Assistant Professor (2015–Present), I have taught undergraduate and graduate courses in Industrial Engineering, including:

- Quality Control and Management
- Project management
- Production Planning and Control
- Operations Research/stochastic modeling
- Engineering Economics
- Research Methodology

## REFERENCES

Name	Title	Institution	Email	Phone
<b>Dr. Bereket Haile</b>	Associate Professor of Industrial Engineering	Bahir Dar Institute of Technology, Bahir Dar University	berekethi12@gmail.com	+251 9-02-41-36-02
<b>Dr. Birhanu Beshah</b>	Associate Professor of Industrial Engineering	College of Technology and Built Environment, Addis Ababa University	bireabesha@yahoo.com	+251 9-55-92-98-37
<b>Dr. Ameha Mulugeta</b>	Assistant Professor of Industrial Engineering	College of Technology and Built Environment, Addis Ababa University	ameha.mulugeta@aait.edu.et	+251 9-11-94-80-14

*Last Updated: April 2026*