Minyechil Alehegn Tefera

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Education

National Taipei University of Technology, Taiwan
PhD candidate in Electrical Engineering and Computer Science
CGPA 4.00/4.00(1st rank)
Expected graduation: July 2025

Symbiosis International University, India
M.Tech in Computer Science and Engineering
Sep.2016-june 2018
CGPA 7.72/10.00

Wollega University, Ethiopia
BSc in Information Technology
CGPA3.81/4.00(1st rank)
June 2014
Honors: recognition of excellent performance from Wollega University

EXPERIENCE

Mizan Tepi university
Assistant lecturer   2014-2016
Assistant professor (with MSc)   Jan 2022
Lecturer   oct .2018-2022
Chair of Information Technology Department   oct. 2018-sep 2020
Associate registrar   oct. 2020-jun 2022

National Taipei university of technology
Teaching Assistant for graduate students: Fiber optic sensors course   Spring 2023
Teaching Assistant for graduate students: Artificial Intelligence for Optoelectronics
Applications   Fall 2024

Academic Achievements
1. Springare Nature, the journal of supercomputing   reviewer (2025)
2. IEEE 5th International Conference on ICT for Development for
   Africa Bahirdar, Ethiopia.   reviewer (2023)
3. HIV & AIDS Review   reviewer (2021-present)
4. Indian Journal of Science and Technology   reviewer 2021
5. NeurIPS2023 Workshop, New Orleans, United States   reviewer (2023)
6. 18th Women in Machine Learning Workshop (WiML2023),
co-located with the NeurIPS conference in New Orleans, USA   reviewer (2023
7. NeurIPS 2022 Workshop, AFCP 2022, New Orleans, USA   reviewer (2022)
8. NeurIPS20221 virtual Workshop, AFCR 2021   reviewer (2021)

Trainings and Awards

1. Artificial Intelligence Data Fairness and Bias, Deeplearnig.ai, coursera   2020
2. Using Python for Research, edx,Harvarduniversity,USA   2020
3. Neural Networks and Deep Learning,Deeplearnig.ai,coursera   2020
4. Improving Deep Neural Networks: Hyper parameter tuning, Regularization and Optimization, Deeplearnig.ai,coursera   2020
5. Structuring Machine Learning Projects, Deeplearnig.ai, coursera   2020
6. Convolutional Neural Networks, Deeplearnig.ai,coursera   2020
7. Certificate of the recognition of excellent performance from all graduates of Information Technology department in 2013/14   2014
8. Certificate of Participation in the International Workshop of the Risk Award 2015 Project in 2017 organized by Munich Re Foundation, Germany&   2017 International Center of EQUI-T of ALL India Institute of local self-government.

Research interest

Optical fiber sensors, optical communications, Artificial Intelligence, meta learning/transfer learning, machine learning, Generative AI, Internet of Things (IoT).

Publications

Selected journal papers

1. **M. A. Tefera** et al., "Enhanced Fiber Bragg Grating Interrogation Using Deep Learning and Fabry–Pérot Liquid Crystal: A CGAN-CNN for Improved Wavelength Detection, "IEEE Sensors Journal,2025.
2. **Tefera, M.A**.; Dehnaw, A.M.; Manie, Y.C.; Yao, C.-K.; Bogale, S.D.; Peng, P.-C. Advanced Denoising and Meta-Learning Techniques for Enhancing Smart Health Monitoring Using Wearable Sensors. *Future Internet* , *16*, 280, 2024**.**
3. **M. A. Tefera**, Y. C. Manie, C. -K. Yao, T. -P. Fan and P. -C. Peng, "Meta-Learning for Boosting the Sensing Quality and Utility of FSO-Based Multi-Channel FBG Sensor System," IEEE *Sensors Journal,*2023.
4. Bogale, S.D., Yao, C.-K., Manie, Y.C.; Dehnaw, A.M.; **Tefera,M. A. ,** W.-L. Li, Z.-G.Zhong, and Peng, P.-C. , "Demodulating Optical Wireless Communication of FBG Sensing with Turbulence-Caused Noise by Stacked Denoising Autoencoders and the Deep Belief Network", Electronics,2024,
5. **M. Alehegn**, "Application of machine learning and deep learning for the prediction of HIV/AIDS," HIV & AIDS Review, 2022.
6. M. Araya and **M. Alehegn**, "Text to Speech Synthesizer for Tigrigna Linguistic using Concatenative Based approach with LSTM model," Indian Journal of Science and Technology, 2022.
7. P. A. Shelar, P. N. Mahalle, G. R. Shinde, H. R. Bhapkar, and **M. A. Tefera**, "Performance-Aware Green Algorithm for Clustering of Underwater Wireless

Sensor Network Based on Optical Signal-to-Noise Ratio," Mathematical Problems in Engineering, 2022.

8. C. Lin, H. Liang, T. Su, and **M. A. Tefera**, "Multi-Criteria Decision-Making Approach for Analyzing Competency Model of Technology Managers," Mathematical Problems in Engineering, 2022.

9. **M. Alehegn** and R. R. Joshi, "Type II Diabetes Prediction Using Combo of SVM ANN and Random Tree," International Journal of Engineering and Advanced Technology, 2019.

10. **Minyechil Alehegn**, Rahul Raghvendra Joshi, and P. Mulay, "Diabetes Analysis and Prediction Using Random Forest, KNN, Naïve Bayes, And J48: An Ensemble Approach," International Journal of Scientific & Technology Research, 2019.

11. **Alehegn, M**., Joshi, R., & Mulay, P. "Analysis and prediction of diabetes mellitus using machine learning algorithm". International Journal of Pure and Applied Mathematics,2018.

12. **<u>Minyechil Alehegn Tefera</u>**, Cheng-Kai Yao, Chun-Hsiang Peng, Yao-Jen Chung, Tzu-Chiao Lin, Hung-Ming Chen, Wen-Yang Hsu, and Peng-Chun Peng" Optimizing Free-Space Optical Communication Based Distributed Temperature Sensing Demodulation Using Meta-Learning" IEEE Journal of Lightwave Technology (under revision).

Conference papers and participations

1. Using Deep Learning method and Fabry-Perot Filter in Fiber Bragg Grating Sensor Systems P. C. Peng, **M. A. Tefera**, Y. C. Manie, S. H. Liu, T. P. Fan, L. Y. Du, Optics & Photonics Taiwan International Conference (OPTIC 2022), Taiwan.

2. **Minyech1 Alehegn Tefera** "Analysis and prediction of COVID-19 using Deep learning" 3rd National conference on Innovation and challenges in Engineering and technology for sustainable development (ICET-2022, Arba Minch University, university,2022.

3. **Minyechil Alehegn Tefera "**Health system resilience during public health emergency "1st National Conference,2022, Ethiopia.

Skills

Programming language: Python, R, Prolog, C++
Deep Learning Framework: TensorFlow, Keras, and others

Language

Amharic (native), English(fluent), Chinses(little)

References
1. Professor Peng-Chun Peng, Professor and Chair of Electro-Optical Engineering Department, National Taipei University of Technology, Taiwan Email: pcpeng@mail.ntut.edu.tw
2. Dr. Yibeltal Chanie Manie, Assistant Professor at National Taipei University of Technology, Taiwan,Email: yibeltal_chanie@mail.ntut.edu.tw