

# Mesay Gemedas Yigezu

PhD Candidate

Instituto Politécnico Nacional (IPN) - Centro De Investigación En Computación  
(CIC)  
Mexico City



## Contact Information

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## Personal Profile

I am a Ph.D. candidate at the Instituto Politécnico Nacional (IPN), Centro de Investigación en Computación (CIC), in Mexico City. My research focuses on Natural Language Processing (NLP), with a specialization in multilingual hate speech detection in low-resource languages, fake news detection, language identification, machine translation, and text classification. I am passionate about leveraging machine learning, deep learning, and transformer-based architectures to address challenges in low-resource languages. I am a motivated individual with strong organizational, collaborative, and independent working skills.

## Skills

- **Languages:** English (Proficient), Amharic (Native), Wolaita (Native)
- **Programming Languages:** Python, C++, C#, SQL, Java, JavaScript
- **Databases:** MySQL, Oracle
- **Web Development:** HTML, PHP, Apache Web Server, CSS
- **Technologies & Frameworks:** PyTorch, Keras, TensorFlow, Git, HuggingFace, NLTK

## Work Experience

- **2022-09 – Present**

**PhD Candidate**

Instituto Politécnico Nacional (IPN) - Centro De Investigación En Computación (CIC), Mexico City

I am conducting research in NLP, focusing on multilingual hate speech detection for low-resource languages.

- Developing machine learning, deep learning, and transformer-based models for text classification and disinformation detection.

- **2022-03 – 2022-09**

**IT Expert**

Awash Bank, Sodo, Ethiopia

- Managed and maintained IT systems, ensuring operational efficiency.
- Provided technical support and troubleshooting for banking software and hardware.

- **2017-03 – 2022-08**

**Lecturer**

Wachemo University, Hosanna, Ethiopia

- Taught courses in Information Technology and Computer Science.
- Supervised student projects and research activities.

- **2019-01 – 2020-01**

**Part-Time Lecturer**

Wolaita Sodo University, Sodo, Ethiopia

- Delivered lectures and workshops on IT-related topics.
- Assisted in curriculum development and academic planning.

## Education

- **2022-09 – Present**

**PhD in Computer Science**

Instituto Politécnico Nacional (IPN-CIC), Mexico City, Mexico

- Research focus: Natural Language Processing (NLP), Machine Learning, and Deep Learning.

- **2024-04 – Present**

**Research Fellow**

University of Colorado Colorado Springs (UCCS), Colorado, USA

- Conducting research in NLP and machine learning applications.

- **2019-02 – 2021-03**

**Master of Science in Information Technology**

Wolaita Sodo University, Wolayta Sodo, Ethiopia

- **2013-02 – 2016-06**

**Bachelor of Science in Information Technology**

Arba Minch University, Arba Minch, Ethiopia

## Research Publications

- **Evaluating the Effectiveness of XAI Techniques for Encoder-Based Language Models.** *Knowledge-Based Systems*, 2025.

- MA. Mersha, MG. Yigezu, and Kalita (2025).
- **Odio-BERT: Evaluating domain task impact in hate speech detection.** *Journal of Intelligent & Fuzzy Systems*, 2024.
- MG. Yigezu, Kolesnikova, Gelbukh, and Sidorov (2024).
- **Detecting multilingual hate speech targeting immigrants and women on Twitter.** *Journal of Intelligent & Fuzzy Systems*, 2024.
- O. Kolesnikova, MG. Yigezu, Gelbukh, and Sidorov (2024).
- **Evaluating the Effectiveness of Hybrid Features in Fake News Detection on Social Media.** *IEEE*, 2023.
- MG. Yigezu, Mehamed, Kolesnikova, Guge, Gelbukh, and Sidorov (2023).
- **Ethio-Fake: Cutting-Edge Approaches to Combat Fake News in Under-Resourced Languages Using Explainable AI.** *ACLing*, 2024.
- MG. Yigezu, Mersha, Bade, Kalita, Kolesnikova, and Gelbukh (2024).
- **Semantic-Driven Topic Modeling Using Transformer-Based Embeddings and Clustering Algorithms.** *ACLing*, 2024.
- Mersha, MG. Yigezu, Bade, and Kalita (2024).
- **Ethio-LLM: Multilingual Large Language Models for Five Ethiopian Languages and English, and Ethio Benchmark – A New Benchmark Dataset for Various Downstream NLP Tasks.** *LREC-COLING*, 2024.
- A. L. Tonja, Azime, MG. Yigezu et al. (2024).
- **Developing MasakhaNEWS – A New Benchmark Dataset for News Topic Classification Covering 16 Languages Widely Spoken in Africa.** *IJCNLP*, 2023.
- Adelani, A.L. Tonja, MG. Yigezu et al. (2023).
- **Bilingual Word-Level Language Identification for Omotic Languages.** *ICAST*, 2023.
- MG. Yigezu, GY. Bade, AL. Tonja, Kolesnikova, Gelbukh, and Sidorov (2023).
- **Extractive Text Summarization for Wolaytta Language Using Recurrent Neural Network.** *ICTD4A-IEEE*, 2024.
- Eyobed et al. and MG. Yigezu (2024).
- **Design and Develop Automatic Parts of Speech Tagger for Siltigna Language.** *ICTD4A-IEEE*, 2024.
- Eyobed et al. and MG. Yigezu (2024).
- **Transformer-Based Hate Speech Detection for Multi-Class and Multi-Label Classification.** *IberLEF@ SEPLN*, 2023.
- MG. Yigezu, O. Kolesnikova, G. Sidorov, and A. Gelbukh (2023).
- **Detecting Fake News Detection in Dravidian Languages Using Deep Learning.** *Proceedings of the Fourth Workshop on Speech, Vision, and Language Technologies for Dravidian Languages*, 2024.
- MG. Yigezu, AL. Tonja, O. Kolesnikova, G. Sidorov, and A. Gelbukh (2024).
- **Abusive Comment Detection Using a Deep Learning Approach.** *Proceedings of the Third Workshop on Speech and Language Technologies for Dravidian Languages*, 2023.
- MG. Yigezu, SA. Kanta, Kolesnikova, G. Sidorov, and A. Gelbukh (2023).

- **Multilingual Hope Speech Detection Using Machine Learning.** *IberLEF@ SEPLN*, 2023.  
- MG. Yigezu, O. Kolesnikova, G. Sidorov, and A. Gelbukh (2023).
- **Word-Level Language Identification in Code-Mixed Kannada-English Texts Using Deep Learning Approach.** *Proceedings of the 19th International Conference on Natural Language Processing (ICON)*, 2022.  
- MG. Yigezu, AL. Tonja, O. Kolesnikova, G. Sidorov, and A. Gelbukh (2022).
- **Transformer-Based Model for Word-Level Language Identification in Code-Mixed Kannada-English Texts.** *Proceedings of the 19th International Conference on Natural Language Processing (ICON)*, 2022.  
- A. L. Tonja, MG. Yigezu, O. Kolesnikova, G. Sidorov, and A. Gelbukh (2022).
- **Ginger disease detection using a computer vision pre-trained model.** *Springer Nature Journal Article*, 2023.  
- Kolesnikova, MG. Yigezu, A.L. Tonja, MM. Woldeyohannis, G. Sidorov, and A. Gelbukh (2023).
- **Word-Level Language Identification in Code-Mixed Kannada-English Texts Using Traditional Machine Learning Algorithms.** *Proceedings of the 19th International Conference on Natural Language Processing (ICON)*, 2022.  
- Tash, MG. Yigezu, Tonja, O. Kolesnikova, G. Sidorov, and A. Gelbukh (2022).
- **Utilizing Deep and Transfer Learning Approaches for Sentiment Analysis.** *Proceedings of the Third Workshop on Speech and Language Technologies for Dravidian Languages*, 2023.  
- MG. Yigezu, O. Kolesnikova, G. Sidorov, and A. Gelbukh (2023).
- **Multilingual Neural Machine Translation for Low-Resource Languages: Ometo-English.** *International Conference on Information and Communication Technology for Development for Africa (ICT4DA)*, 2021.  
- MG. Yigezu, MM. Woldeyohannis, and AL. Tonja (2021).
- **A Parallel Corpora for Bi-Directional Neural Machine Translation for Low-Resource Ethiopian Languages.** *International Conference on Information and Communication Technology for Development for Africa (ICT4DA)*, 2021.  
- Atnafu Lambebo Tonja, Michael Melese Woldeyohannis, and Mesay Gemed Yigezu (2021).
- **Early Ginger Disease Detection Using Deep Learning Approach.** *Advances of Science and Technology: 9th EAI International Conference, ICAST 2021*, 2022.  
- Mesay Gemed Yigezu, Michael Melese Woldeyohannis, and Atnafu Lambebo Tonja (2022).

## Additional Information

- Strong analytical and problem-solving skills.
- Experience in collaborative research and academic writing.
- Proficient in using version control systems like Git.
- Passionate about open-source projects and contributing to the NLP community.