

General Program Outline

Day	Morning - Before Tea Break		Tea Break	Morning - After Tea Break		Lunch Break	Before Tea Break	After Tea Break
Monday 18 Nov 2024	Conference Opening (08:40-09:20)	Keynote I: by <i>Dr. Sven Mattisson</i> (09:21 -10:00)		Keynote II: by <i>Dr. Martha Yifiru</i> (10:16 - 11:00)	Special Session I: <i>Sustainable Smart Town/Village Models Providing Solutions for Cities in Africa</i> (11:01 -12:30)		Paper Presentation: Parallel Session I (14:01 -15:40)	Paper Presentation: Parallel Session I (16:01 -17:40)
Tuesday 19 Nov 2024	Keynote III: by <i>Prof Thomas O Olwal</i> (08:30-9:30)	Special Session II: <i>Proposing Important Ethics and Regulatory Frameworks to Harness AI for Good</i> (09:31 – 10:30)	Special Session III: <i>_ICT for Water Resource Management & Smart Agriculture</i> (10:46 – 12:00)		Paper Presentation: Parallel Session II (14:01 -15:40)	Paper Presentation: Parallel Session II (16:01 -17:40)		
					Paper Presentation: Parallel Session I (13:31 – 15:30)	Paper Presentation: Parallel Session I (15:51-17:50)		
					Paper Presentation: Parallel Session II (13:31 – 15:30)	Paper Presentation: Parallel Session II (15:51-17:50)		
20 November 2024	Site Seeing							



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Bahir Dar Institute of Technology
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Bahir Dar University

Conference Program

Day 1		Washera Hall
Monday Nov 18, 2024		
Time	Task/ Title	Moderator
08:00 – 08:40	Registration	Organizing Team
08:41 – 08:50	Conference Briefing from Conference General Chair by Dr. Esubalew Alemneh	Dr. Tesfa Tegegn
08:51 – 09:00	Message from Steering Committee Chair Dr Fisseha Mekuria, Malmo University, Sweden	
09:00 – 09:10	Welcome Speech from Scientific Director of Bahir Dar Institute of Technology by Dr. Mitiku Damtie	
09:11 -09:20	Opening Remark by Dr. Mengesha Ayene, President of Bahir Dar University	
09:21 -10:00	Keynote I: Innovation in Electronic System Design, by Prof Sven Mattisson, Lunds University, Sweden	Dr Fisseha Mekuria
10:01 -10:15	Coffee Break	
10:16 -11:00	Keynote II: Multilingual Automatic Speech Recognition for Multilingual Country by Dr. Martha Yifiru	Dr. Michael Melese
11:01 -12:30 Special Session I: Sustainable Smart Town/Village Models Providing Solutions for Cities in Africa		Dr Fisseha Mekuria
11:01 - 11:30	Presentation to introduce the session and sharing best experience by Jan Malmgren	
11:31 - 12:30	Panel Discussion: Jan Malmgren, Mr. Brynjólfur Þorvarðsson, Dr. Amare Kassaw, Dr. Tesfa Tegegne, Dr. Muluneh Lemma	
12:31 – 14:00	Conference Lunch	
14:01 – 17:40	Parallel Sessions	
Parallel Session I		Venue: Washera Hall
Track1: Intelligent Systems and Data Science and Track 6: Information Systems		
<i>(Session Manager: Mr. Wondimu Baye)</i>		
14:01 -14:20	A Comparative Evaluation of GA and PSO-Tuned PID Controllers for a Quadruple Tank System	Gashaye L Hailu

14:21 -14:40	<i>An Ensemble Feature Extraction Approach for Ethiopian Coffee Beans Variant Identification</i>	Wakjira Tesfaye	Dr. Mohammed Abebe
14:41 -15:00	<i>The integration of Deep Learning techniques and big data analytics for improved breast cancer diagnosis and treatment: A systematic review</i>	Hambisa G Mitiku	
15:01 -15:20	<i>Detection and Classification of Ethiopian Kale Leaf Disease Using Deep Learning</i>	Damtew Mekash	
15:21 -15:40	<i>Wearable Sensing and Artificial Intelligence: A Technological Intervention to Physiological Monitoring and Early Detection of Pandemic Diseases</i>	Jamal Firmat	
Parallel Session II Venue: Khas Hall			
Track 5: Natural Language Processing, track 2: Wireless Communication & Emerging Technology, track 4: Security and Privacy, Track 3: Computing Systems (Session Manager: Mr. Tegegn Kebebew)			
Time	Topic	Presenter	Chair person
14:01 -14:20	<i>Kafi Noonoo Grammar Errors Detection Using Deep Learning Approaches</i>	<i>Dereje Teferi</i>	Dr. Mekonnen Wagaw
14:21 -14:40	<i>A Hybrid Deep Learning Approach for Optical Character Recognition of Multi-Dialect Guragegna Printed Documents</i>	<i>Tesfahun Nurrie</i>	
14:41 -15:00	<i>Deep Learning Based Model for a Spell Checker of Wolaita Language</i>	<i>Selemon Lera</i>	
15:01 -15:20	<i>Designing an Automatic Sentence based Parsing for Ge'ez Sentences</i>	<i>Mebit Kefale</i>	
15:21 - 15:40	<i>Development of Sentiment Analysis for Wolaita Language using Machine Learning Approaches</i>	<i>Aklilu Thomas</i>	
15:41 - 16:00	Tea/Coffee Break		
Parallel Session I Venue: Washera Hall			
Track1: Intelligent Systems and Data Science and Track 6: Information (Session Manager: Mr. Wondimu Baye)			
16:01 -16:20	<i>Cervical cell segmentation and classification using U-Net and Hybrid VGG19-AlexNet Architecture.</i>	<i>Betelhem Zewdu</i>	Dr. Siraj Sebhatsu
16:21 -16:40	<i>Embedded Responsible Computing-Mainstreaming Ethics into Computer Science Curriculum-A Case Study of Dedan Kimathi University of Technology</i>	<i>George W Musumba</i>	
16:41 -17:00	<i>Brain Tumor Segmentation Using Multi-Task Learning</i>	<i>Yirga Yayeh</i>	
17:01 -17:20	<i>Review of AI Technologies for Enhancing the Lives of Visually Impaired Individuals: Applications, Outcomes, and Future Directions</i>	<i>Fitsum Gizachew</i>	
17:21 - 17:40	<i>Classifying Dairy Farmers' Knowledge, Attitudes, and Practices towards Aflatoxin using Bootstrap Oversampling and Machine Learning</i>	<i>Sosina Dires</i>	
Parallel Session II Venue: Khas Hall			

<i>Track 5: Natural Language Processing, Track 2: Wireless Communication & Emerging Technology, Track 4: Security and Privacy, Track 3: Computing Systems</i> (Session Manager: Mr. Tegegn Kebebew)			
16:01 -16:20	<i>Effect of Parallel Data Processing Model on Bi-Directional English-Khimtagne Machine Translation Using Deep Learning</i>	Adane Kasie	Dr. Debas Senshaw
16:21 -16:40	<i>Sinhala Java Development Aid with Machine Translation Integration</i>	Dilshan De Silva	
16:41 -17:00	<i>Enhancing Early Childhood Literacy: A Technological Aid for Letter Learning</i>		
17:01 -17:20	<i>Parallel Corpora Preparation for bi-Directional Amharic-Kistannigna Machine Translation</i>	Mengistu K	
17:21 -17:40	<i>Event Relation Extraction for Amharic Texts Using Deep Learning Approach</i>	Abinet Bizuayehu	
End of Day 1			
Day 2		Washera Hall	
Tuesday Nov 19, 2024			
08:30 – 09:30	Keynote III: <i>Next generation wireless trends by Prof Thomas O Olwal</i>		Dr. Fisseha Mekuria
09:31 – 10:30	Special Session II: <i>Proposing Important Ethics and Regulatory Frameworks to Harness AI for Good</i>		Dr. Haileluel Tibebu
09:31 – 09:40	<i>Session Introduction by Session Chair</i>		
09:41 - 09:55	<i>Balancing the Risks and Rewards of Deepfake and Synthetic Media Technology: A Regulatory Framework for Emerging Economies by Mohammad Shakil</i>		
09:56 - 10:30	Panel discussion: <i>Ethics & Responsible AI in the Context of Emerging Economies. Participants: Dr. Waltenigus. Dargie, Dr. Ethiopia Negussie, Dr. Fisseha Mekuria, Dr. Tesfa Tegegne, and Mohammad Shakil, Dr. Mohammed Abebe,</i>		
10:31 – 10:45	<i>Tea/Coffee break</i>		
10:46 – 12:15	Special Session III: <i>ICT for Water Resource Management & Smart Agriculture</i>		Dr. Fisseha Mekuria & Dr.
10:46 – 11:00	Introducing the session by the chairs of the session		Mohammed Abebe
11:01 – 12:15	Panel Discussion: <i>ICT for Water Resource Management & Smart Agriculture, Participants: Prof. Seifu Admassu, Prof. Nils Ekelund, Dr. Peter Von Lany. Dr. Samuel Dagalo,</i>		

12:15-13:30		Conference Lunch	
Parallel Session I		Venue: Washera Hall	
Track1: Intelligent Systems and Data Science and Track 6: Information Systems (Session Manager: Mr. Wondimu Baye)			
13:31 – 13:50	Model Predictive Controller Design for Precision Agricultural Robot	Eskeziyaw Alemneh	Dr. Mekuanint Agegnehu
13:51 – 14:10	Zema Dataset: A Comprehensive Study of Yaredawi Zema with a Focus on Horologium Chants	Mequanent Argaw	
14:11 – 14:30	Classification of Angular Leaf Spot, Bean Rust Diseases in Haricot Bean Leaves using CNN and Transfer Learning	Kebad Nigussie	
14:31 – 14:50	Tekele Zemamie Action Recognition in Ethiopia Orthodox Church Using CNN-Bi-LSTM	Tenagne Fikirie	
14:51 – 15:10	Controlling of 3 DOF car model active suspension system using Adaptive Neuro Fuzzy Inference System controller	Yibeltal A	
15:11 – 15:30	Deep Learning Approach for Medicinal Plant Identification and Therapeutic Use Prediction	Emiyamrew Azmeraw	
15:31 – 15:50		Tea Break	
Parallel Session II		Venue: Khas Hall	
Track 5: Natural Language Processing, track 2: Wireless Communication & Emerging Technology, Track 4: Security and Privacy, Track 3: Computing Systems (Session Manager: Mr. Tegegn Kebebew)			
13:31 – 13:50	Extractive Text Summarization for Wolaytta Language Using Recurrent Neural Network	Eyobed Birhanu	Dr. Kibreab Adane
13:51 – 14:10	Design And Develop Automatic Parts Of Speech Tagger for Siltigna Language	Biniyam Sime	
14:11 – 14:30	The Role of Syntax and Semantics in Rule-Based Translation: A Comprehensive Review	Dilshan De Silva	
14:31 – 14:50	Long Short-Term Memory and Synthetic Minority Over Sampling Technique-Based Network Traffic Classification	Yirga Yayeh	
14:51 – 15:10	Indoor Localization Using a Hybrid Algorithm of BiLSTM and SVM	Biruh A	
15:11 – 15:30	Software Complexity Analysis with the Advanced CB Metric	Nethmi N Thathsarani	
15:31 – 15:50		Tea Break	
Parallel Session I		Venue: Washera Hall	
Track1: Intelligent Systems and Data Science and Track 6: Information Systems			

<i>(Session Manager: Mr. Wondimu Baye)</i>			
15:51 – 16:10	<i>Addressing the Limitations of News Recommendation Systems: Incorporating User Demographics for Enhanced Personalization</i>	Zerihun Olana	<i>Dr. Girmaw Teshager</i>
16:11 – 16:30	<i>Financial Health Assessment for Households in Kenya</i>	Peter Kimanga	
16:31 – 16:50	<i>Barriers and Challenges in Clinical Application of Machine Learning Algorithms</i>	Hamza SH	
16:51 – 17:10	<i>Predicting Household-based Emergency Food Assistance using Hybrid Learning with Explainable Artificial Intelligence</i>	Abraham Alamirew	
17:11 – 17:30	<i>A Framework for Orange Fruit Disease Detection and Classification Using Image Processing Technique, Machine Learning, And Deep Learning: In Case of Tigray Region</i>	Gebrhans weldye	
Parallel Session II		Venue: Khas Hall	
Track 5: Natural Language Processing, track 2: Wireless Communication & Emerging Technology, track 4: Security and Privacy, Track 3: Computing Systems			
<i>(Session Manager: Mr. Tegegn Kebebew)</i>			
15:51 – 16:10	<i>An Investigation into the Use of Open-Source Software Development Tools in the South African Mining Industry</i>	Josef J. Langerman	<i>Dr. Fekadu Mihiret</i>
16:11 – 16:30	<i>Authorship Attribution on an Afrikaans Corpus using Burrows Delta</i>	Previn Rueben	
16:31 – 16:50	<i>Secure Ad hoc On-demand Distance Vector Routing Protocol for Wireless Sensor Networks Data Transmission</i>	Kindu Tigabu	
16:51 – 17:10	<i>Encrypted Malicious Network Traffic Detection: Leveraging Attention Mechanism and Markov Chain Sequencing</i>	Sileshi Nibret	
17:11 – 17:30	<i>An Empirical Study of Cloud services quality the case of Ethiopia</i>	Natnael Wondafrash	
17:31 – 17:50	<i>Balancing the Risks and Rewards of Deepfake and Synthetic Media Technology: A Regulatory Framework for Emerging Economies</i>	Mohammad Shakil	
17:51 -18:00	Certificate Provision and Closing Remarks [ICT4DA-2024 Organizing Committee]		
End of Day 2			
Day 3		Wednesday 20, 2024	
Site Seeing			



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