

icABCD 2021 Conference Programme

This programme is subject to change

Please note: all times are South Africa (GMT +2)

Presenting author names are in bold in the program

All presentations will be LIVE

Please refer to the full paper in the Conference Proceedings

DRAFT



icABCD 2021

4th International Conference on Artificial Intelligence, Big Data, Computing & Data Communication Systems (icABCD 2021)

IEEE
*South Africa Section
Computer Society Chapter*

5-6 August 2021

Virtual Conference
icABCD 2021

Day 1 – Thursday, 5th August 2021	
08.00 – 08.05	OPENING: Inauguration, Welcome: Dr Singh
08.05 – 08.10	Address by Conference Chair: Prof. Darelle van Greunen
08.10 – 08.50	Keynote Address by Dr. Siddhartha Bhattacharyya
	Technical Session 1 – Artificial Intelligence – Chair: Dr Pudaruth Chat administrator: Dr Singh, WhatsApp administrator: Mogandren Govender
09.00 – 09.15	2: Peer To Peer Social Lending Defaulting using Deep Learning techniques Kennedy Chengeta and Elizabeth Mabika (South Africa)
09.15 – 09.30	23: Towards A Machine Learning Enabled Multi-Channel Messaging Framework for Financial Service Institutions: Preliminary Investigations Olusola Salami and Ernest Mnkandla (Egypt)
09.30 – 09.45	33: An Evaluation of YOLO-Based Algorithms for Hand Detection in the Kitchen Joshua van Staden and Dane Brown (South Africa)
09.45 – 10.00	49: Optimizing Music Recommendation Algorithms Using Self-Similarity Matrices Hope Mogale and Michael Esiefarienrhe (South Africa)
10.00 – 10.15	39: Evaluation of 3D and 2D Deep Learning Techniques for Semantic Segmentation in CT Scans Abhishek Shivdeo, Rohit Lokwani, Viraj Kulkarni, Amit Kharat and Aniruddha Pant (India)
10.15 – 10.30	Virtual Social Break
	Technical Session 2 – ICT in Society – Chair: Prof van Greunen Chat administrator: Dr Singh, WhatsApp administrator: Anelita Kuhle
10.30 – 10.45	1: Covid-19 New Cases Measurements and Benford's Law with Specific Focus on South Africa Laurie Butgereit (South Africa)
10.45 – 11.00	5: Modelling Climate Smart Agriculture with Ontology Jean Vincent Fonou Dombeu, Nadia Naidoo, Micara Ramnanan, Rachan Gowda and Sahil Lawton (South Africa)
11.00 – 11.15	13: CAUDUS: An Optimisation Model To Reducing Port Traffic Congestion Mohamed Zaire Iyooob and Brett van Niekerk (South Africa)
11.15 – 11.30	72: POPIA complaint regulatory framework for smart grids to secure gaps in the existing privacy laws Vicent Mbonye, Prabhakar Rontala Subramaniam and Indira Padayachee (South Africa)
11.30 – 11.45	Virtual Social Break
11.45 – 12.00	81: Using reinforcement learning algorithms to explore COVID-19 spread in South Africa Ruan Le Hanie and Janse van Rensburg (South Africa)
12.00 – 12.15	84: The trajectory of artificial intelligence research in higher education: A bibliometric analysis and visualization Vusumuzi Maphosa and Mfowabo Maphosa (South Africa)
12.15 – 12.30	91: Digital Innovations for Post-CoViD-19 Pandemic Recovery: A Review Feziwe L Khomo, Abdultaofeek Abayomi, Emmanuel Adetiba, Israel E Agbehadji, Bethel M Mutanga and Vikash Jugoo
12.30 – 13.00	Lunch

	Technical Session 3 – Artificial Intelligence – Chair: Mogandren Govender Chat administrator: Dr Pudaruth, WhatsApp administrator: Anelita Kuhle
13.00 – 13.15	40: Deep Learning Models for Calculation of Cardiothoracic Ratio from Chest Radiographs for Assisted Diagnosis of Cardiomegaly Tanveer Gupte , Mrunmai Niljekar, Manish Gawali, Viraj Kulkarni, Amit Kharat and Aniruddha Pant (India)
13.15 – 13.30	44: Deep Handwriting Recognition with Data Augmentation Techniques Dane Brown and Ipfi Lidzhade (South Africa)
13.30 – 13.45	50: Parametric analysis of the prediction performance of the surface roughness in end milling of aluminium using a hybrid PSO-ANN Serge Balonji , Imhade Princess Okokpujie and Lagouge Tartibu (South Africa)
13.45 – 14.00	51: Modeling of the remaining useful life of rotating machinery using a hybrid PSO-ANN Thulani Mazibuko , Lagouge Tartibu, Francis Kunzi Tekweme and Modestus Okechukwu Okwu (South Africa)
14.00 – 14.15	52: A Cross-platform Interface for Automatic Speaker Identification and Verification Tumisho Billson Mokgonyane , Tshephiso Joseph Sefara, Madimetja Jonas Manamela and Thihe Isaiah Modipa (South Africa)
14.15 – 14.30	54: Progress on Deep Learning Models for Plant Disease Detection: A Survey Adedamola Adedaja , Pius Adewale Owolawi, Temitope Mapayi and Chunlin Du (South Africa)
14.30 – 14.45	59: Data-driven Approach for Selection of an Ensemble Model of Profane Words Detection in Social Media Abdulrehman Mohamed , George Okeyo and Michael Kimwele (Kenya)
14.45 – 15:00	Virtual Social Break
	Technical Session 4 –Emerging Trends in Technology – Chair : Anelita Kuhle Chat administrator: Dr Pudaruth, WhatsApp administrator: Mogandren Govender
15.00 – 15.15	9: Design considerations for implementing a home energy management systems Trust-More Muusha and Tebello Mathaba (South Africa)
15.15 – 15.30	28: An Ontology for Smart Home Design Akaash Videsh Reedoy, Shankar Bhawani Dayal, Prenellyn Govender and Jean Vincent Dombeu (South Africa)
15.30 – 15.45	93: Studies on Frequency Regulation of Hydro System via New JAYA Optimized LQR Design Avinash Panwar, Prof. Vinesh Agarwal and Dr. Gulshan Sharma
15.45- 16.00	70: Chatbot Driven Web-based Platform for Online Safety and Sexual Exploitation Awareness and Reporting in Namibia Marsela Rita and Fungai Bhunu Shava (Namibia)
16.00 – 16.15	92: Big Data Driven Decision Making Guidelines for South African Banking Institutions Komla Pillay and Alta Van der Merwe
16.15 – 16.30	22: Cloud Platform Access Support Architecture for Underwater Habitat Based Subscribers Periola A. Ayodele , Akintunde A. Alonge and Kingsley A. Ogudo (South Africa)
16.30– 17.45	35: Reconstruction of DES in Order to Reduce Memory Constraints Found on IoT Devices Khumbelo Difference Muthavhine and Mbuyu Sumbwanyambe (South Africa)
END OF DAY 1	

Day 2 – Friday, 6th August 2021	
08.00 – 08.05	Welcome : Prof Van Greunen
08.05 – 08.50	Keynote Address by Prof. Fungai Bhunu Shava
	Technical Session 5 –Information Security – Chair: Prof van Greunen Chat administrator: Dr Pudaruth, WhatsApp administrator: Mogandren Govender
09.00 – 09.15	32: Design of a Fingerprint Biometric Access Control System with GSM Functionality Terene Govender and Patrice Umenne (South Africa)
09.15 – 09.30	36: Modifying CAST algorithm in order to Increase Encryption Strength and to Reduce Memory Limitations Khumbelo Difference Muthavhine and Mbuyu Sumbwanyambe (South Africa)
09.30 – 09.45	56: Security Considerations in the Internet of Things Protocol Stack Kishor Krishnan Nair and Harikrishnan Damodaran Nair (South Africa)
09.45 – 10.00	Virtual Social Break
	Technical Session 6 –Software Engineering – Chair: Dr Pudaruth Chat administrator: Dr Singh, WhatsApp administrator: Anelita Kuhle
10.00 – 10.15	12: Novel Software Solution for Engineering Education Kingsley A Ogudo , Periola Ayodele and Akintunde Alonge (South Africa)
10.15 – 10.30	86: Data Migration in Support of Business Intelligence in a Growing Organization Sonja Gilliland, Alexander Van der Walt and Imelda Smit (South Africa)
	Technical Session 6 –Artificial Intelligence – Chair: Prof van Greunen Chat administrator: Prof van Greunen, WhatsApp administrator: Mogandren Govender
10.30 – 10.45	45: Investigating Popular CNN Architectures for Plant Disease Detection Louise Poole and Dane Brown (South Africa)
10.45 – 11.00	47: Brain tumor detection and classification using multi-level ensemble transfer learning in MRI data set Michael Christopher Xenya and Zenghui Wang (Ghana)
11.00 – 11.15	Virtual Social Break
	Technical Session 7 – Electrical & Electronics Engineering – Chair: Mogandren Govender Chat administrator: Dr Pudaruth, WhatsApp administrator: Anelita Kuhle
11.15 – 11.30	4: Marine Aquarium Temperature Controller and the IoT (Internet of Things) Gerrit Jordaan and Patrice Umenne (South Africa)
11.30 – 11.45	62: Evaluation of Line-of-Sight Probability Models for Enclosed Indoor Environments at 14 to 22 GHz Mohamed Elmezughi and Thomas Afullo (South Africa)
11:45 – 12:00	67: Square Srr Metamaterial Inspired Microstrip Antenna for Wireless Mobile Communication Bukola Ajewole , Pradeep Kumar and Thomas Jo Afullo (South Africa)

12:00 – 12:15	Vote of Thanks and Inauguration of icABCD 2021: Prof van Greunen
12:15 – 13:00	Lunch break
	Technical Session 8 – Artificial Intelligence– Chair: Mogandren Govender Chat administrator: Dr Pudaruth, WhatsApp administrator: Mogandren Govender
13.00 – 13.15	76: Unmanned aerial vehicles for the future: classification, challenges and opportunities Uchechi Ukaegbu, Lagouge Tartibu and Modestus Okwu (South Africa)
13.15 – 13.30	78: Gender Identification in Sepedi Speech Corpus Tshephisho Joseph Sefara and Tumisho Billson Mokgonyane (South Africa)
13.30 – 13.45	83: Development of Automatic Speech Recognition for Xitsonga using Subspace Gaussian Mixture Model Vukosi Rikhotso, Thipe Modipa, Jonas Manamela and Tumisho Mokgonyane (South Africa)
13.45 – 14.00	89: Development of a Modular Wall Painting Robot for Hazardous Environment Modestus Okwu, Lagouge Tartibu, Omonigho Otanocha and Dolor Roy Enarevba (South Africa)
14.00 – 14.15	90: Performance Analysis of an Autonomous Cart-Trolley for the Disabled: An ANFIS Based Evaluating Methodology Modestus Okwu, Oluwayomi Oyejide, Uchechi Ukaegbu and Lagouge Tartibu (South Africa)
14.15 – 14.30	6: Snake Species Identification Using Deep Convolutional Neural Networks Emerson Cardoso, Felermino Ali and Saide Saide (Mozambique)
14.30 – 14.45	31: Development of a Raspberry Pi Based Rain Predictor for Smart Retractable Roof Systems using Convolutional Neural Networks:A Study Based on Day Light Conditions Malusi Sibiya and Bernardus C. Bothma (South Africa)
14.45 – 15:00	Virtual Social Break
	Technical Session 9 – Communication Technologies – Chair : Anelita Kuhle Chat administrator: Dr Singh, WhatsApp administrator: Mogandren Govender
15.00 – 15.15	15: Evaluation of visual syntax specification techniques: a study of OWL Anitta Thomas (South Africa)
15.15 – 15.30	16: Research on Noise Monitoring System of Intelligent Substation Jianbo Yu, Qiong Yang, Qiang Cheng and Lvhui Yuan (China)
15.30 – 15.45	20: Analysis of power allocation in visible light-NOMA communication using uniform probability distribution function Chidi Emmanuel Ngene, Prabhat Thakur and Ghanshyam Singh (South Africa)
15.45- 16.00	55: Students’ Use of On-campus Wireless Networks: Analysis by Residence Type Mbonye Vicent and Catherine S. Price (South Africa)
16.00 – 16.15	61: Mitigation of Denial of Service Attacks in Software-Defined Cognitive Radio Networks Mampuele Lebepe and Mthulisi Velempini (South Africa)
16.15 – 16.30	94: Frequency Control Studies of Hydro System using AI Applications Avinash Panwar, Prof. Vinesh Agarwal and Dr Gulshan Sharma
END OF DAY 2	