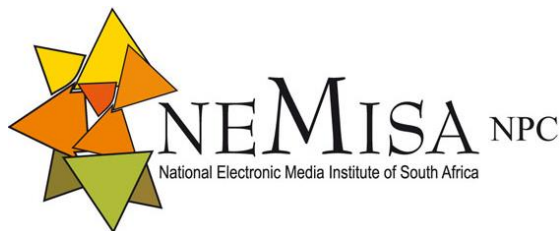




icABCD2018

International Conference on Advances in Big Data, Computing and Data Communication Systems



6-7 August 2018, Durban, South Africa

Coastlands Hotels and Resorts, 329
Umhlanga Rocks Drive, Durban

icABCD2018

Day 1 – Monday, 6th August 2018

08.00 – 08.30	Registration of Participants: Foyer 2nd Floor Tea & Coffee – Venue African Fire 1		
08.30 – 08.35	OPENING: Inauguration, Welcome - Venue: African Fire 2		
08.35 – 09.20	Keynote Address by Mr Prince Moyo - Venue: African Fire 2		
	Sessions		
	Venue: African Fire 2	Venue: African Fire 3	Venue: African Fire 4
	Big Data and Soft Computing	ICT for Development	Mobile & Data Communication Systems
Session Chair	Prof. Manoj Maharaj	Dr. Mayank Singh	Dr. Sajid Mubashir Sheikh
09.30 – 09.50	5: The comparative analysis of Smith-Waterman algorithm with Jaro-Winkler algorithm for the detection of duplicate health related records Israel Edem Agbehadji , Richard Millham, Simon Fong and Hongji Yang	16: Cloud Computing Adoption Challenges in Banking Industry Mayank Singh , Kuldeep S. Tanwar and Viranjay M Srivastava	1: A Cross-Layer Hybrid Strategy for Congestion Avoidance and Link Quality Routing in Wireless Multi-Hop Networks Sajid Mubashir Sheikh and Nadhir Ben Halima
09.50 – 10.10	9: On Safari with TensorFlow: Assisting Tourism in Rural Southern Africa using Machine Learning Laurie Butgereit and Laura Martinus	34: A standard approach to enabling the semantic interoperability of disease surveillance data in health information systems: a case of Namibia Nikodemus Angula and Nomusa Dlodlo	4: Performance Modeling of a Cloud based Health Monitoring System Using Dynamic Control System Alaba Akingbesote, Adebola Akingbesote, Ijeoma Mba and Matthew Adigun
10.10 – 10.30	13: IT Equipment Monitoring and Analyzing System for Forecasting and Detecting Anomalies in Log Files Utilizing Machine Learning Techniques I. Elanama, Muhammad Asif Khan and J. Li	51: Automatic South African Coin Recognition through Visual Template Matching Mandlenkosi V. Gwetu and Tharish Sooruth	Paper 139: Feature Selection Strategies for the Controller Placement Problem in SDNs: A Review Isaiah Adebayo , Matthew Adigun and Pragasen Mudali
10.30 – 11.00	Coffee Break - Venue African Fire 1		

Day 1 – Monday, 6th August 2018

	Venue: African Fire 2	Venue: African Fire 3	Venue: African Fire 4
	Big Data and Soft Computing	ICT for Development	Mobile & Data Communication Systems
Session Chair	Prof. Zbigniew Szadkowski	Dr. Marlien Herselman	Dr. Gilbert Makanda
11.00 – 11.20	24: The Role of Quality of Information and Intention to Use in Mobile Business Intelligence Pauline Phoobane and Eduan Kotzé	52: Hierarchical Content Based Key Retrieval Mandlenkosi Gwetu and Shruti Patel	54: An Architecture Utilizing Human Emotions and Activities Recognition for Remote Monitoring A. Abayomi , O. Olugbara & D. Heukelman
11.20 – 11.40	29: Cloud computing as a source of independent, large scale computing capabilities for small science teams, based on Pierre Auger Collaboration example Michal Wiedenski and Zbigniew Szadkowski	70: Implementation of a Public Service Delivery Platform to Improve the Service Delivery of Indigent Registers in South African Municipalities Tshegofatso Mangole , Ednar Tapala, Hombakazi Ngejane, Kishor Nair and Edwin	67: Multiple wavelength propagation in free space optical wireless channel Zanele Mahlobogwane , Pius Owolawi and Oludare Sokoya
11.40 – 12.00	33: Practical Implementation of Machine Learning and Predictive Analytics in Cellular Network Transactions in Real Time Jean-Nesta Muwawa and Kingsley Ogudo	72: Evidence of the ecological systems theory influencing technological use in rural schools in South Africa: A case study Marlien Herselman , Adele Botha, Daphney Mayindi and Esmeralda Reid	75: An envisaged SLA-based Cloudlet Business Model for ensuring Service Guarantees Mandisa Nomfundo Nxumalo , Matthew O. Adigun and Ijeoma Mba
12.00 – 12.20	Paper 77: Educational Data Mining to Improve Learner Performance in Gauteng Primary Schools M. Ramaphosa , R. Kwuimi and Transos Zuva	Paper 141: Influence of Previous Computer Experience on Adult Learners' Satisfaction Levels with Pedagogical Interface Agents Ntima Mabanza and Lizette de Wet	Paper 135: Mathematical models on the Hadoop run-times on Big Data Gilbert Makanda
12:20 – 12:40	Group Photo – Pool Deck - 3rd Floor		
12.40 – 13.30	Lunch – African Heritage – 2nd Floor		

Day 1 – Monday, 6th August 2018			
13.35 – 14.05	Keynote Address by Prof. Dr Reggie Davidrajuh - Venue: African Fire 2		
14:05 – 14:25	Keynote Address by Prof. Anand Nayyar - Venue: African Fire 2		
	Venue: African Fire 2	Venue: African Fire 3	Venue: African Fire 4
	Big Data and Soft Computing	ICT for Development	Mobile & Data Communication Systems
Session Chair	Dr. Shaleeza Sohail	Prof. Adele Botha	Dr. Gilbert Makanda
14.30 – 14:50	38: A Design Science Model for the Application of Data Mining and Machine Learning Models on Constrained Devices in Low Bandwidth Areas Laurie Butgereit, Michael Niland, Jeroen Schmidt and Wessel Rheeder	80: Mitigating the Challenge of Hardcopy Document Forgery Nelisiwe Dlamini and Sthembile Mthethwa	92: Comparative Study on Routing Protocols for Vehicular Ad-hoc Networks (VANETs) Elias Khoza , Chunling Du and Pius Owolawi
14.50 – 15.10	41: Fuzzy Approach to Controller Placement Problem: Fuzzy Controller (FC) Shaleeza Sohail and Aasia Khanum	87: Evaluating the Usability of Flat Panel Displays: A Case Study of the Faculty of Engineering and Information Technology Ntima Mabanza	103: A joint MAC and Network layer QoS Scheme which mitigates primary and secondary users' interference K. Adelaide Moyaba and Mthulisi Velempini
15.10 – 15:30	55: Mitigating Cyber-crime and Online Sexual Grooming of Minors on Social Media Using Machine Learning: A Desktop Survey C. H. Ngejane , Jan Eloff, Gugulethu Mabuza-Hocquet and Samuel Lefophane	97: Towards a Taxonomy of mHealth Adele Botha , Martin Weiss and Marlien Herselman	105: Transparent Protocol for Interoperability in Wireless Sensor Networks Martin Götz and Olfa Kanoun
15.30 – 16.00	Coffee Break – Venue: African Fire 1		
Session Chair	Dr. Meera Joseph	Dr. Rob Schumaker	Dr Upasana Singh
16:00 – 16:20	16:00 – 17:00 CRYPTOGRAPHY AND CRYPTOCURRENCIES WORKSHOP By Prof. Manoj Maharaj Venue: African Fire 2	32: Voice Gender Recognition using Random Forest Recursive Feature Elimination with Gradient Boosting Machines Kudakwashe Zvarevashe & O. Olugbara	Paper 66: Flying Adhoc Network (FANETs): Simulation Based Performance Comparison of Routing Protocols: AODV, DSDV, DSR, OLSR, AOMDV and HWMP by Anand Nayyar
16:20 – 16:40		42: Implementation and Analysis of Enhanced Apriori Using MapReduce N. Gasela , M. Esiefarienrhe & M. N. Mlambo	143: CSFB-Cell Reselection Selection and Handover between LTE and 3G Network Sylvester J. Udoh and Viranjay M. Srivastava
16:40 – 17:00		86: Discovering the most important Data Quality Dimensions in health Big Data using Latent Semantic Analysis Suraj Juddoo and Carlisle George	129: Application of CSDG MOSFET Based Active High Pass Filter in Satellite Communications: A Circuit Perspective Llewellyn Naidoo and Viranjay M Srivastava

Day 2 – Tuesday, 7th August 2018

08.00 – 08.30	Registration of Participants: Foyer 2nd Floor Tea & Coffee – Venue African Fire 1			
08.30 – 08.35	Day 2 Welcome - Venue: African Fire 2			
08.35 – 09.20	Keynote Address by Dr Robert P. Schumaker - Venue: African Fire 2			
	Sessions			
	Venue: African Fire 2	Venue: African Fire 3	Venue: African Fire 4	Venue: African Fire 7
	Big Data & Soft Computing	ICT for Development	Mobile & Data Comm. Systems	Big Data & Soft Computing
Session Chair	Dr Maleika Mamode Khan	Dr. Meera Joseph	Dr. Miquel Angel Piera	Dr. Temitayo Fagbola
09.30 – 09.50	73: Improving the performance of multilayer backpropagation neural networks with adaptive learning rate Zahra Amiri, Hamid Hassanpour, Naushad Mamode Khan and Maleika Heenaye-Mamode Khan	102: Towards the Development of a Rule-based Drought Early Warning Expert Systems Using Indigenous Knowledge Adeyinka Akanbi and Muthoni Masinde	108: A negotiation mechanism for a consensus in air traffic conflict resolution Miquel Angel Piera	Paper 36: Improve decision making towards universities performance through Big Data analytics Mmatshuene Anna and Billy Mathias Kalema
09.50 – 10.10	74: Modeling of an Efficient Low Cost, Tree based Data Service Quality Management for Mobile Operators using In-Memory Big Data Processing & Business Intelligence Use cases Kingsley Ogudo & D. M. Jean Nestor	109: Renewable Energy Integration in Ghana: The Role of Smart Grid Technology Akom Kingsley , Thokozani Shongwe and Meera Joseph	40: Channel Selection Technique to Satisfy Secondary Users Quality of Service (QoS) Requirements in TV White Space Athanacious Makgamatha , Tranos Zuva and Moshe Masonta	Paper 148: Experimental Comparison of Multivariate Predictive Models based on DT & Linear Repr. Classifier for improving Students Learning Outcomes T. Fagbola , S.Thakur & O. Olugbara
10.10 – 10.30	83: A conceptual framework representing the user experience for business intelligence front-ends Chrisna Jooste , Judy Van Biljon and Adele Botha	25: Development of a Cloud-based Monitoring System using 4duino: Applications in agriculture Kayode E Adetunji and Meera Joseph	8: Facilitating the management of Agile and DevOps activities: Implementation of an agile data consolidator Abdel Kader Doukoure Gaoussou & E. Mnkandla	Paper 111: Towards A Serendipitous Research Paper Recommender System Using Bisociative Information Networks (BisoNets) B. Maake , S. Ojo & Tranos Zuva
10.30 – 11.00	Coffee Break - Venue African Fire 1			

Day 2 – Tuesday, 7th August 2018

	Venue: African Fire 2	Venue: African Fire 3	Venue: African Fire 4	Venue: African Fire 7
	Big Data & Soft Computing	ICT for Development	Computer Security	Green IT & Energy
Session Chair	Prof. Reggie Davidrajuh	Dr. Tranos Zuva	Dr. Marijke Coetzee	Dr. Bakhe Nleya
11.00 – 11.20	89: Using Vehicle GPS Data to Infer Offloading Times of Waste Collection Vehicles at Transfer Stations Llewellyn Steyn and Elias Willemse	60: Android and Cloud based traffic control system Mpho Madisa and Meera Joseph	Paper 88: Evaluation of Identity and Access Assurance Component Model Dimensions Ferdinand Damon and Marijke Coetzee	Paper 81: Sleep-Mode/Traffic Grooming versus Device Reliability Overview Chrispin Mulangu , Bakhe Nleya and Philani Khumalo
11.20 – 11.40	91: ‘Firing Sequence’ as a tool for the Analysis of Petri Nets Reggie Davidrajuh and Chunming Rong	104: Coexistence study between Analog TV (PAL-I) & LTE in Digital Dividend Band: South African case study – G. Dlodla, A. Swart & Seani Rananga	Paper 145: A structural and navigational method for integrated organisational information privacy protection Hanifa Abdullah	Paper 44: Electronic Waste and its Negative Impact on Human Health and the Environment Ramadile Moletsane and Carin Venter
11.40 – 12.00	96: Temporal Decision Trees in Diagnostics Systems Vadim N. Vagin , Sergey Antipov, Marina Fomina and Oleg Morosin	Paper 31: Assessment of e-learning readiness in South African Schools Irene Kolo and Tranos Zuva	Paper 136: Trust-based system to defend against the Spectrum Sensing Data Falsification Attack in Cognitive Radio Ad Hoc Network I. Ngomane , M. Velempini and S. V Dlamini	Paper 82: An Overview of Green Networking and Power Savings in Optical Backbone Networks Philani Khumalo and Bakhe Nleya
12.00 – 12.20	98: Impact of Text Pre-processing on the Performance of Sentiment Analysis Models for Social Media Data Valentine Nhlabano and Patricia Lutu	Paper 76: Benefits of Crowdsourcing and Its Growth in The Education Sector Thulani Shongwe and Tranos Zuva	Paper 140: HCOBASAA: Countermeasure against sinkhole attacks in software-defined wireless sensor cognitive radio networks Lanka Sejaphala , Mthulisi Velempini and Sabelo Dlamini	27: Communication technologies for efficient energy mgt. in smart grid Mutetwa Kuyumani , Meera Joseph and Sunir Hassan
12.20 – 12.40	Paper 132: The Automatic Recognition of Sepedi Speech Emotions based on Machine Learning Algorithms John Manamela , Jonas Manamela and Thipe Modipa	Paper 131: Collision Course: Challenges with Road Traffic Accident Data in South Africa Mpho Mokoatle and Dr Vukosi Marivate	Paper 17: Users' perceptions on security of mobile computing for adoption of e-applications in South Africa Fhatuwani Vivian Mapande , Tranos Zuva and Martin Appiah	Paper 85: A Survey of Energy Efficient Optical Backbone Network Approaches for Supporting Cloud Computing Masimba Gomba, Bakhe Nleya and Mendon Dewa
12.40 – 13.30	Lunch – African Heritage – 2nd Floor			

Day 2 – Tuesday, 7th August 2018

13.35 – 14.00	Keynote Address by Dr Surendra Thakur - Venue: African Fire 2			
14:00 – 14:10	CLOSING CEREMONY: Certificate and Prize Presentations			
	Venue: African Fire 2	Venue: African Fire 3	Venue: African Fire 4	Venue: African Fire 7
	Big Data & Soft Computing	Computer Security	Green IT & Energy	Green IT & Energy
Session Chair	Dr. Rob Schumaker	Dr. Thokozani Shongwe	Dr. Temitope Adetunji	Dr. Bakhe Nleya
14.10 – 14:30	146: The use of histogram analysis to support fast selection of predictive features for data stream mining Patricia Lutu	48: Finger code matching algorithm using circular tessellation Kedimotse Baruni , Kishor Nair and Mahlatse Ratsoma	Paper 78: A framework of bimodal biometrics for e-assessment authentication systems Temitope Oluwafunmilayo Adetunji , T. Zuva & M. Appiah	Paper 59: Transboundry Movement of Electronic Waste, Issues and Challenges in African Countries Ramadile Moletsane & Carin Venter
14.30 – 14:50	138: Understanding How the Ad Hoc Use of Big Data Analytics Impacts Agility: A Sensemaking-based Model Ryuichi Hosoya and Taro Kamioka	49: Cryptocurrency: The new face of Cyber Money Laundering Sagwadi Mabunda	12: Integrating Photovoltaic Technologies in Smart Homes Kehinde Adeyeye , Etienne Ntagwirumugara, Jonathan Colton and Nelson Ijumba	Paper 150: Introducing DOMINO: An Eco-Friendly Asynchronous Hybrid Multicore Architecture for Green Computing: H. Mogale, M. Esiefarienrhe , N. Gasela & L. Letlonkane
14.50 – 15:10	56: Predicting and Classifying Gender from the Human Iris: A survey on recent advances Gugulethu Mabuza-Hocquet, Samuel Lefophane and Hombakazi Ngejane	71: CVSS Metric-Based Analysis, Classification & Assessment of Comp. Network Threats & Vulnerabilities V. R. KEBANDE, N. M. Karié, I. Kigwana, H. S. Venter & Ruth Wario	26: Developing a microgrid for Tafelkop using HOMER Akindeji O Akinlabi, Kayode Adetunji and Meera Joseph	Paper 84: Overview Access and Control Considerations for Internet of Things Masimba Gomba and Bakhe Nleya
15.10 – 15:30	Paper 122: The Underpinnings of Ontology Storage in Relational Databases: An Empirical Study Jean Vincent Fonou Dombeu and Raoul Kwuimi	124: Investigation on Ways to Mitigate the Combination of Impulsive Noise and Narrowband Noise within a Single Channel Abiola Bolaji and Thokozani Shongwe	Paper 128: Simulating Software Defined Networking Using Mininet to Optimize Host Communication in a Realistic Programmable Network L. Zulu, K. Ogudo and P. Umenne	Paper 79: Deployment of Environmental Management Systems in South African Small and Medium Enterprises Tope Samuel Adeyelure and Mkhululeki Hlatshwayo
15.30 – 16.00	Coffee Break – Venue: African Fire 1			

Day 2 – Tuesday, 7th August 2018

15.30 – 16.00	Coffee Break – Venue: African Fire 1			
	Venue: African Fire 2	Venue: African Fire 3	Venue: African Fire 4	Venue: African Fire 7
	Big Data & Soft Computing	Computer Security	Green IT & Energy	Green IT & Energy
Session Chair	Dr. Upasana Singh	Dr. Tranos Zuva	Prof. Zbigniew Szadkowski	Dr. Kaushik Roy
16:00 – 16:20	16:00 – 17:00 BIG DATA WORKSHOP Dr Wasim Ahmed	93: Representation of Pose Invariant Face Images Using SIFT Descriptors Nthabiseng Mokoena and Kishor Nair	28: Variable Step-Size Least Mean Square filter suppressing Radio Frequency Interferentions in cosmic-rays radio detection Zbigniew Szadkowski	Paper 101: Customer Relationship Management system usage in South African energy utility industries Tope Samuel Adeyelu and Kayakazi Londoza
16:20 – 16:40		Paper 95: Adoption of the ICT security culture in SMME's in the Gauteng province South Africa Moraba Mokwetli and Tranos Zuva	7: New Approach on Solar Water Heater Energy Smart Metering System Using Adafruit Feather 32u4FONA E. Mudaheeranwa , A. Bataringaya & E. Ntagwirumugara	100: Palm Print Authentication on a Cloud Platform J. Shelton, C. Rice, J. Singh, J. Jenkins, R. Dave, S. Chakraborty & Kaushik Roy
16:40 – 17:00		110: Towards an Electronic retail cybersecurity framework Paul Jideani , L. Leenen, B. Alexander and J. Barnes	Paper 90: Optimal sink-node placement and routing for an energy efficient two-tier wireless sensor network Tebello Nd Mathaba	Paper 35: Enhancement of Task Scheduling Technique of Big Data Cloud Computing Sa'Ed Abed and Duha Shubair