

Osman Hasan

Pro-Rector (Academics)

University Main Office (UMO)

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About

Dr. Osman Hasan is working as Pro-Rector (Academics) in the University Main Office (UMO). Dr. Osman Hasan has a PhD in Formal Methods. Dr. Osman Hasan has published 137 research articles & conference papers having a citation count of 1349, carried out 11 projects and filed 3 intellectual property.

Qualifications

PhD in Formal Methods Concordia University , Canada	2004 - 2008
MS in Engineering Concordia University , Canada	1997 - 2001
BS in Elec Engg UET Peshawar , Pakistan	1993 - 1997

Experience

Pro-Rector (Academics) University Main Office (UMO)	2021- Present
Professor School of Electrical Engineering and Computer Science	2019 - 2021
Associate Professor School of Electrical Engineering and Computer Science	2015 - 2019
Associate Professor School of Electrical Engineering and Computer Science	2015 - 2015
Assistant Professor School of Electrical Engineering and Computer Science	2012 - 2015
Assistant Professor School of Electrical Engineering and Computer Science	2009 - 2012
Appointment Research Associate Concordia University, Montreal, Canada ,	2008 - 2009
ASIC Customer Engineer LSI Logic, Ottawa, ON, Canada ,	2001 - 2003
Design Engineer Pakistan Revenue Automation (Pvt.) ,	1998 - 1999

Awards

(HiPEAC) Paper Award "Statistical Error Analysis for Low Power Adders" that was published at the Design Automation Conference (DAC-2017), Austin, TX, USA.	2017
(SATHA) Innovation Award South Asian Triple Helix Association (SATHA) Innovation Award (2017)	2017
ISTIC TWAS Competition First Prize in ISTIC TWAS Competition – Successful Innovation in Science and Technology in Developing Countries	2015
President's Gold Medal President's Gold Medal for the Best Teacher of the University, National University of Sciences and Technology (NUST), Islamabad, Pakistan	2015

Research Productivity AWD	2015
Research Productivity Award, Pakistan Council for Science and Technology	
IT Research and Developmt	2014
Excellence in IT Research and Development Award, Teradata Pakistan (2014)	
Research Productivity	2014
Research Productivity Award, Pakistan Council for Science and Technology	
Best Researcher Award	2014
Best Researcher Award, School of Electrical Engineering and Computer Science (SEECS), National University of Sciences and Technology (NUST)	
Best Teacher Award	2013
Best Teacher Award, School of Electrical Engineering and Computer Science (SEECS), National University of Sciences and Technology (NUST).	
Best Teacher Award	2013
Best Teacher Award, Dept. of Electrical Engineering, National University of Sciences and Technology (NUST).	
SMART SurgiSol	2013
Runner-up Award obtained by the business plan entitled "SMART SurgiSol", of the supervised project entitled "Development of a Tele-Surgical Robot and Simulator (TSRS)", at TiE International Business Plan Competition (TIBPC) (2013)	
First Heidelberg Laureate	2013
Selected to attend the First Heidelberg Laureate Forum, Heidelberg, Germany, Heidelberg Laureate Forum Foundation. (2013)	
IT Education Award	2013
Excellence in IT Education Award, Teradata Pakistan (2013)	
Best Paper Award	2012
Best Paper Award, 4th International Symposium on Symbolic Computation in Software Science (SCSS-12). (2012)	
IT Excellence Award	2012
Excellence in IT Education, IDE@L IT Excellence Awards (2012)	
Marquis Who's Who (2012)	2012
Listed in Marquis Who's Who (2012)	
HEC Best Research Award	2011
HEC Best Young Research Scholar Award (2011)	
Runner-Up Award	2010
Runner-Up Award obtained by supervised Undergraduate Final Year Project in the e-Health category at Pakistan Software House Association (P@SHA) , ICT Awards (2010)	
HEC Best Teacher Award	2010
HEC Best University Teaching Award (2010)	
Ranked First in ENCS Ph.D	2008
Ranked First in ENCS Ph.D. graduates of Concordia University (2008)	
Student Conference Award	2008
Student Conference Support Award for ISPASS 2008, Concordia University (2008)	
Post-Doctoral Award,	2008
Mobilizing Knowledge Post-Doctoral Award, Concordia University (2008 - 09)	
Fall 2008 Convocation	2008
Valedictorian for the Fall 2008 Convocation, Concordia University (2008)	
Teaching Fellowship, ECE	2007
Teaching Fellowship, ECE Department, Concordia University (2007 - 08)	
Woody Bledsoe Travel Awad	2007
Woody Bledsoe Travel Award, CADE-21, Bremen, Germany (2007)	
Annual Best Paper Award	2006
Annual Best Paper Award, Hardware Verification Group, Concordia U. (2006, 08, 09)	
International Fee Award	2000
International Fee Remission Award, Concordia University (1999 - 2000, 2000 - 01)	
Quaid-e-Azam Award	1998
Quaid-e-Azam Award, Ministry of Education, Pakistan (1998)	

Annual Merit Award	1997
Annual Merit Award, N-W.F.P. UET (1994 - 95, 1995-96, 1996-97)	
Doctoral thesis accepted	
Doctoral thesis accepted “as submitted”, Concordia University (2008)	

Research Projects

National Projects

Formal Modeling and Analysis of Advanced Wireless Systems	2010
Funding Agency: HEC	
Amount: PKR 205,000.00	
Status: Completed	
Development of a Tele-surgical Training Robot and Simulator	2010
Funding Agency: National ICT R&D Fund	
Amount: PKR 69,804,000.00	
Status: Completed	
Peekafood – A Digital Menu for Restaurants Based on Augmented Reality and Artificial Intelligence	2019
Funding Agency: HEC	
Amount: PKR 15,340,000.00	
Status: Completed	
Warship Operability Guidance Tool	2019
Funding Agency: NESCOM	
Amount: PKR 800,000.00	
Status: Approved_inprocess	
Peekafood ? A digital menu for restaurant based on augmented reality and artificial intelligence	2019
Funding Agency: HEC	
Amount: PKR 10,436,825.00	
Status: Approved_inprocess	
Formal Analysis of Protection Systems in Smart Grids using Probabilistic Model Checking	2019
Funding Agency: PSF	
Amount: PKR 5,356,700.00	
Status: Completed	
Formalization of Information Theories and Application in Safety Critical Engineering System	2012
Funding Agency: Qatar National Research Fund (QNRF)	
Amount: PKR 88,512,000.00	
Status: Completed	
Formal Verification of Distributed Thermal and Resource Management Shcemes for On-Chip Many Core Systemts	2014
Funding Agency: DAAD German Academic Exchange Services	
Amount: PKR 15,827,000.00	
Status: Approved_inprocess	
Developing an Efficient and Robust SLAM Algorithm for Indoor and Outdoor Mobile Robots	2017
Funding Agency: HEC	
Amount: PKR 4,700,000.00	
Status: Completed	
Automated Tele-Micromanipulator Cell Injection System	2016
Funding Agency: IGNITE	
Amount: PKR 39,997,000.00	
Status: Completed	
Investigation of Effective Management of Energy Demand in Distribution Management Systems of Smart Grids using Formal Verification Methods	2017
Funding Agency: UAE ICT Fund	
Amount: PKR 2,440,000.00	
Status: Approved_inprocess	

International Projects

- MSE-GCN: A Multiscale Spatiotemporal Feature Aggregation Enhanced Efficient Graph Convolutional Network for Dynamic Sign Language Recognition** 2025
Neelma Naz Hasan Sajid Sara Baber Sial Osman Hassan Muhammad Khurram Ehsan
IEEE Transactions on Emerging Topics in Computational Intelligence, Volume: 9, Issue: 4, Page(s):2979-2994
Impact Factor: 6.5 | **Quartile:** 1 | **Citations:** 1
DOI: 10.1109/TETCI.2024.3509500
- Continual Learning With Neuromorphic Computing: Foundations, Methods, and Emerging Applications** 2025
Mishal Fatima Minhas Rachmad Vidya Wicaksana Putra Falah Awwad Muhammad Shafique Osman Hasan
IEEE Access , Volume:13, Page:124824-124873
Impact Factor: 3.600 | **Quartile:** 2
DOI: <https://doi.org/10.1109/ACCESS.2025.3588665>
- Formal Verification of Universal Numbers using Theorem Proving** 2024
Adnan Rashid Ayesha Gauhar Osman Hassan Sa'ed Abed Imtiaz Ahmad
Journal of Electronic Testing , Pages 1-17
Impact Factor: 1.100 | **Quartile:** 4 | **Citations:** 1
DOI: 10.1007/s10836-024-06123-9
- Formalization of the Telegrapher's Equations using Higher-Order-Logic Theorem Proving** 2024
Elif Deniz Adnan Rashid Osman Hassan Sofiene Tahar
Journal of Applied Logics , Volume 11, Issue 2, Pages 197-236
Impact Factor: 0.400 | **Quartile:** 4
DOI: 978-1-84890-456-9
- Formal performance analysis of optimal relays-based protection scheme for automated distribution networks** 2024
Sobia Ashraf Osman Hassan
Engineering Science and Technology, an International Journal, Volume 51, March 2024, 101633
Impact Factor: 5.7 | **Quartile:** 1 | **Citations:** 3
DOI: 10.1016/j.jestch.2024.101633
- MIPA-ResGCN: a multi-input part attention enhanced residual graph convolutional framework for sign language recognition** 2023
Neelma Naz Hasan Sajid Sara Baber Sial Osman Hassan Muhammad Khurram Ehsan
Computers & Electrical Engineering , Volume 112, Article Number 109009
Impact Factor: 4.3 | **Quartile:** 2 | **Citations:** 7
DOI: <https://doi.org/10.1016/j.compeleceng.2023.109009>
- QuanDA: GPU Accelerated Quantitative Deep Neural Network Analysis** 2023
Mahum Naseer Osman Hassan Muhammad Shafique
ACM Transactions on Design Automation of Electronic Systems, Volume 28, Issue 6, Article Number 95
Impact Factor: 1.4 | **Quartile:** 4
DOI: 10.1145/3611671
- UnbiasedNets: a dataset diversification framework for robustness bias alleviation in neural networks** 2023
Mahum Naseer Bharath Srinivas Prabakaran Osman Hassan Muhammad Shafique
Machine Learning , Pages 1-28
Impact Factor: 5.414 | **Quartile:** 2 | **Citations:** 7
DOI: <https://doi.org/10.1007/s10994-023-06314-z>
- Signgraph: An Efficient and Accurate Pose-Based Graph Convolution Approach Toward Sign Language Recognition** 2023
Neelma Naz Hasan Sajid Sara Baber Sial Osman Hassan Muhammad Khurram Ehsan
IEEE Access , Volume 11, Pages 19135-19147
Impact Factor: 3.476 | **Quartile:** 2 | **Citations:** 41
DOI: DOI: 10.1109/ACCESS.2023.3247761
- Approximate Computing-Based Processing of MEA Signals on FPGA** 2023
Mohammad Hassan Falah Awaad Mohamed Atef Osman Hassan
Electronics , Volume 12, Issue 4, Article Number 848
Impact Factor: 2.690 | **Quartile:** 3 | **Citations:** 2
DOI: 10.3390/electronics12040848

A Formal Approach to Identifying the Impact of Noise on Neural Networks Iram Tariq Bhatti Mahum Naseer M. Shafique Osman Hassan <i>Communications of the ACM</i> , Volume 65, Issue 11, Pages 70-73 Impact Factor: 14.065 Quartile: 1 Citations: 5 DOI: 10.1145/3550492	2022
Formalization of bond graph using higher-order-logic theorem proving Ujala Qasim Adnan Rashid Osman Hasan <i>ISA Transactions</i> , Volume 128, Part B, Pages 453-469 Impact Factor: 5.468 Quartile: 1 Citations: 2 DOI: 10.1016/j.isatra.2021.11.042	2022
Formal analysis of 2D image processing filters using higher-order logic theorem proving Adnan Rashid Sa'ed Abed Osman Hasan <i>EURASIP Journal on Advances in Signal Processing</i> , Volume 2022, Article Number 53 Impact Factor: 1.759 Quartile: 3 DOI: 10.1186/s13634-022-00882-3	2022
Continual Learning for Real-World Autonomous Systems: Algorithms, Challenges and Frameworks Khadija Shaheen Muhammad Abdullah Hanif Osman Hasan Muhammad Shafique <i>Journal of Intelligent and Robotic Systems</i> , Volume 105, Issue 1, Article Number 9 Impact Factor: 2.646 Quartile: 3 Citations: 63 DOI: 10.1007/s10846-022-01603-6	2022
Towards the formal performance analysis of multistate coherent systems using HOL theorem proving Shahid Ali Murtza Waqar Ahmed Adnan Rashid Osman Hasan <i>Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability</i> , Pages 1-15 Impact Factor: 1.891 Quartile: 3 DOI: 10.1177/1748006X221074441	2022
BioNetExplorer: Architecture-Space Exploration of Bio-Signal Processing Deep Neural Networks for Wearables Bharath Srinivas Prabakaran Asima Akhtar Semeen Rehman Osman Hasan Muhammad Shafique <i>IEEE Internet of Things Journal</i> , Volume 8, Issue 17, Pages 13251-13265 Impact Factor: 10.238 Quartile: 1 Citations: 13 DOI: 10.1109/JIOT.2021.3065815	2021
Chronic kidney disease diagnosis using decision tree algorithms Hamida Ilyas Sajid Ali Mahvish Ponum Osman Hasan Muhammad Tahir Mahmood Mehwish Iftikhar Mubasher Hussain Malik <i>BMC Nephrology</i> , Volume 22, Article Number: 273 Impact Factor: 2.585 Quartile: 3 Citations: 77 DOI: 10.1186/s12882-021-02474-z	2021
An evolutionary/heuristic-based proof searching framework for interactive theorem prover Osman Hasan Philippe Fournier-Viger M. Saqib Nawaz M. Zohaib Nawaz Meng Sun <i>Applied Soft Computing</i> , Volume 104, Article Number 107200 Impact Factor: 8.263 Quartile: 1 Citations: 12 DOI: https://doi.org/10.1016/j.asoc.2021.107200	2021
ForASec: Formal Analysis of Hardware Trojan-Based Security Vulnerabilities in Sequential Circuits Faiq Khalid Imran Hafeez Abbassi Semeen Rehman Awais Mehmood Kamboh Osman Hasan Muhammad Shafique <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , - Impact Factor: 2.565 Quartile: 3 Citations: 7 DOI: 10.1109/TCAD.2021.3061524	2021
Formal verification of Matrix based MATLAB models using interactive theorem proving Ayesha Gauhar Adnan Rashid Osman Hasan Joao Bispo Joao M.P. Cardoso <i>PeerJ Computer Science</i> , Volume 7, Article Number e440 Impact Factor: 2.411 Quartile: 2 Citations: 4 DOI: 10.7717/peerj-cs.440	2021
Formal Analysis of the Continuous Dynamics of Cyber-physical Systems using Theorem Proving Adnan Rashid Osman Hasan <i>Journal of Systems Architecture</i> , Volume 112, Article Number 101850 Impact Factor: 5.836 Quartile: 1 Citations: 11	2021

DOI: 10.1016/j.sysarc.2020.101850

How childhood diseases awareness contributes to minimize the risk of disease severity in children under five age: an evolutionary study

2020

Mahvish Ponum Osman Hasan Saadia Khan Mahvish Ponum Saadia Khan

Journal of the Pakistan Medical Association, Volume 70, Issue 12, Pages 2210-2214

Impact Factor: 0.781 | **Quartile:** 4

DOI: 10.47391/JPMA.402

Design and Realization of A Robotic Manipulator for Minimally Invasive Surgery with Replaceable Surgical Tools

2020

Sajid Nisar Asad Hameed Nabeel Kamal Osman Hasan Fumitoshi Matsuno

IEEE-ASME Transactions on Mechatronics, Volume 25, Issue 6, Pages 2754-2764

Impact Factor: 5.303 | **Quartile:** 1 | **Citations:** 12

DOI: 10.1109/TMECH.2020.2991869

Formal Reliability Analysis of an Integrated Power Generation System Using Theorem Proving

2020

Waqar Ahmad Osman Hasan Falah Awwad Nabil Bastaki Syed Rafay Hasan

IEEE Systems Journal, Volume 14, Issue 4, Pages 4820-4831

Impact Factor: 3.931 | **Quartile:** 2 | **Citations:** 3

DOI: 10.1109/JSYST.2020.2970107

MacLeR: Machine Learning-Based Runtime Hardware Trojan Detection in Resource-Constrained IoT Edge Devices

2020

Faiq Khalid Syed Rafay Hasan Sara Zia Falah Awwad Muhammad Shafique Faiq Khalid Syed Rafay Hasan Sara Zia Osman Hasan Falah Awwad Muhammad Shafique

IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, Volume 39, Issue 11, Pages 3748-3761

Impact Factor: 2.807 | **Quartile:** 2 | **Citations:** 18

DOI: 10.1109/TCAD.2020.3012236

Formal Verification of ECCs for Memories Using ACL2

2020

Mahum Naseer Waqar Ahmad Osman Hasan Mahum Naseer Waqar Ahmad

Journal of Electronic Testing, Volume 36, Pages 643–663

Impact Factor: 0.880 | **Quartile:** 4 | **Citations:** 3

DOI: <https://doi.org/10.1007/s10836-020-05904-2>

PEAL: Probabilistic Error Analysis Methodology for Low-power Approximate Adders

2020

Muhammad Kamran Ayub Muhammad Abdullah Hanif Muhammad Shafique Muhammad Kamran Ayub Muhammad Abdullah Hanif Osman Hasan Muhammad Shafique

ACM Journal on Emerging Technologies in Computing Systems, Volume 17, Issue 1, Article Number 1, Pages 1-37

Impact Factor: 1.420 | **Quartile:** 4 | **Citations:** 2

DOI: <https://doi.org/10.1145/3405430>

Formal Reasoning about Synthetic Biology using Higher-order-logic Theorem Proving

2020

Sa'ed Abed Osman Hasan Adnan Rashid

IET Systems Biology, Volume 14, Issue 5, Pages 271-283

Impact Factor: 1.615 | **Quartile:** 4 | **Citations:** 4

DOI: 10.1049/iet-syb.2020.0026

Proof searching and prediction in HOL4 with evolutionary/heuristic and deep learning techniques

2020

M. Saqib Nawaz M. Zohaib Nawaz Philippe Fournier-Viger Meng Sun M. Saqib Nawaz M. Zohaib Nawaz Osman Hasan Philippe Fournier-Viger Meng Sun

Applied Intelligence, Pages 1-22

Impact Factor: 5.086 | **Quartile:** 2 | **Citations:** 7

DOI: <https://doi.org/10.1007/s10489-020-01837-7>

SIMCom: Statistical sniffing of inter-module communications for runtime hardware trojan detection

2020

Faiq Khalid Syed Rafay Hasan Osman Hasan Muhammad Shafique

Microprocessors and Microsystems, Volume 77, Article Number 103122

Impact Factor: 1.525 | **Quartile:** 3 | **Citations:** 7

DOI: 10.1016/j.micpro.2020.103122

Towards Model Checking-Driven Fair Comparison of Dynamic Thermal Management Techniques under Multi-Threaded Workloads

2020

Syed Ali Asadullah Bukhari Faiq Khalid Osman Hasan Muhammad Shafique Jörg Henkel

IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, Volume 39, Issue 8, Pages 1725-1738

Impact Factor: 2.807 Quartile: 2 Citations: 2 DOI: 10.1109/TCAD.2019.2921313	
LPQ-SAM: A Low-Power Quality Scalable Approximate Multiplier <i>Sumbal Iqbal Osman Hasan Rehan Hafiz Zeshan Aslam Khan</i> <i>Journal of Circuits Systems and Computers</i> , Volume 30, No. 1, Article Number 2150017 Impact Factor: 1.333 Quartile: 4 Citations: 2 DOI: 10.1142/S0218126621500171	2020
Formal Analysis of Unmanned Aerial Vehicles using Higher-order-logic Theorem Proving <i>Saed Abed Adnan Rashid Osman Hasan</i> <i>Journal of Aerospace Information Systems</i> , Pages 1-15 Impact Factor: 1.185 Quartile: 3 Citations: 7 DOI: 10.2514/1.1010730	2020
Formal Verification of Robotic Cell Injection Systems upto 4-DOF using HOL Light <i>Adnan Rashid Osman Hasan</i> <i>Formal Aspects of Computing</i> , Pages 1-22 Impact Factor: 0.627 Quartile: 4 Citations: 5 DOI: 10.1007/s00165-020-00514-3	2020
Stunting diagnostic and awareness: impact assessment study of sociodemographic factors of stunting among school-going children of Pakistan <i>Mahvish Ponum Saadia Khan Osman Hasan Muhammad Tahir Mahmood Asad Abbad Mehwish Ifitikhar Reema Arshad</i> <i>BMC Pediatrics</i> , Volume 20, Article Number: 232 Impact Factor: 2.125 Quartile: 3 Citations: 23 DOI: 10.1186/s12887-020-02139-0	2020
Petri net and rewriting logic based formal analysis of multi-agent based safety-critical systems <i>Ammar Boucherit Laura M. Castro Abdallah Khababa Osman Hasan</i> <i>Multiagent and Grid Systems</i> , Volume 16, issue 1, Pages 47-66 Impact Factor: - Citations: 5 DOI: 10.3233/MGS-200320	2020
Toward the Formalization of Macroscopic Models of Traffic Flow Using Higher-Order-Logic Theorem Proving <i>Adnan Rashid Muhammad Umair Osman Hasan Mohamed H. Zaki</i> <i>IEEE Access</i> , Vol.8(1), Pages 27291-27307 Impact Factor: 3.367 Quartile: 2 Citations: 2 DOI: 10.1109/ACCESS.2020.2971661	2020
Formalization of Cost and Utility in Microeconomics <i>Asad Ahmed Osman Hasan Falah Awwad Nabil Bastaki Asad Ahmed Falah Awwad Nabil Bastaki</i> <i>Energies</i> , Vol.13(3), Article Number 712 Impact Factor: 3.004 Quartile: 3 DOI: https://doi.org/10.3390/en13030712	2020
Formal reliability and failure analysis of ethernet based communication networks in a smart grid substation <i>Waqar Ahmad Osman Hasan Sofiene Tahar</i> <i>Formal Aspects of Computing</i> , Pages 1-41 Impact Factor: 0.627 Quartile: 4 Citations: 10 DOI: 10.1007/s00165-019-00503-1	2020
Formalization of Cost and Utility in Microeconomics <i>Asad Ahmed Osman Hasan Falah Awwad Nabil Bastaki</i> <i>Energies</i> , Volume 13(3), Article Number712 Impact Factor: 3.004 Quartile: 3 DOI: https://doi.org/10.3390/en13030712	2020
SecureSurgiNET: A framework for ensuring security in telesurgery <i>Muhammad Sohail Iqbal Shahzad Farooq Khuram Shahzad Asad Waqar Malik Mian Hamayun Osman Hassan</i> <i>International Journal of Distributed Sensor Networks</i> , Volume: 15 Issue: 9 Article Number: 1550147719873811 Impact Factor: 1.151 Quartile: 4 Citations: 19 DOI: 10.1177/1550147719873811	2019

Wearable technologies for hand joints monitoring for rehabilitation: A survey <i>Adnan Rashid Osman Hasan</i> <i>Microelectronics Journal</i> , Volume: 88, Pages: 173-183 Impact Factor: 1.405 Quartile: 3 Citations: 83 DOI: 10.1016/j.mejo.2018.01.014	2019
Self-compensating accelerators for efficient approximate computing <i>Sana Mazahir Osman Hasan Muhammad Shafique</i> <i>Microelectronics Journal</i> , Volume 88, Pages 9-17 Impact Factor: 1.405 Quartile: 3 Citations: 10 DOI: 10.1016/j.mejo.2019.03.008	2019
EasyDetectDisease: An Android App for Early Symptom Detection and Prevention of Childhood Infectious Diseases <i>M. Ponum Osman Hasan S. Khan</i> <i>Interactive Journal of Medical Research</i> , Volume 8, Issue 2, Article Number e12664 Impact Factor: 0 DOI: 10.2196/12664	2019
Using gate-level side channel parameters for formally analyzing vulnerabilities in integrated circuits <i>Imran Hafeez Abbasi F. K. Lodhi Osman Hasan A. Kamboh</i> <i>Science of Computer Programming</i> , Volume 171, Pages 42-66 Impact Factor: 0.775 Quartile: 4 Citations: 8 DOI: 10.1016/j.scico.2018.11.001	2019
Formal comparison of LEACH and its extensions <i>A. Ihsan Osman Hasan K. Saghar T. Fatima</i> <i>Computer Standards & Interfaces</i> , Volume 62, Pages 119-127 Impact Factor: 2.809 Quartile: 1 Citations: 18 DOI: 10.1016/j.csi.2018.10.001	2019
Formal Analysis of Continuous-time Systems using Fourier Transform <i>Adnan Rashid Osman Hasan</i> <i>Journal of Symbolic Computation</i> , Volume 90, Pages 65-88 Impact Factor: 0.673 Quartile: 4 Citations: 10 DOI: 10.1016/j.jsc.2018.04.004	2019
Formal Probabilistic Analysis of Low Latency Approximate Adders <i>Amina Qureshi Osman Hasan</i> <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , ISSN:0278-0070, Volume 38, Issue 1, Pages 177-189 Impact Factor: 2.168 Quartile: 3 Citations: 10 DOI: 10.1109/TCAD.2018.2803622	2019
Formal Asymptotic Analysis of Online scheduling Algorithms for Plug-in Electric Vehicles' Charging <i>Asad Ahmed Osman Hasan F. Awwad N. Bastaki S. R. Hasan</i> <i>Energies</i> , Volume 12, Issue 1, Article Number 19 Impact Factor: 2.702 Quartile: 3 Citations: 1 DOI: 10.3390/en12010019	2019
Formalization of Lerch's Theorem using HOL Light <i>Adnan Rashid Osman Hasan</i> <i>Journal of Applied Logics-IFCOLOG Journal of Logics and Their Applications</i> , Volume: 5, Issue: 8, Pages1623-1652 Impact Factor: - DOI: NA	2018
Statistical model checking of relief supply location and distribution in natural disaster management <i>S. Iqbal M. U. Sardar F. Khalid Osman Hasan</i> <i>International Journal of Disaster Risk Reduction</i> , Volume 31, Pages 1043-1053 Impact Factor: 2.568 Quartile: 2 Citations: 15 DOI: 10.1016/j.ijdr.2018.04.010	2018
Towards the Formal Development of Software Based Systems: Access Control System as a Case Study <i>A. Boucherit Laura M. Castro Abdallah Khababa Osman Hasan</i> <i>Information Technology and Control</i> , Volume 47, Issue 3, Pages 393-405 Impact Factor: 0.707 Quartile: 4 Citations: 2	2018

DOI: 10.5755/j01.itc.47.3.20330	
McSeVIC: A Model Checking Based Framework for Security Vulnerability Analysis of Integrated Circuits <i>Imran Hafeez Abbasi Awais Mehmood Kamboh Osman Hasan Faiq Khalid Muhammad Shafique</i> <i>IEEE Access</i> , Volume 6, Pages 32240-32257 Impact Factor: 4.098 Quartile: 1 Citations: 11 DOI: 10.1109/ACCESS.2018.2846583	2018
Formal probabilistic analysis of a surgical robot control algorithm with different virtual fixtures <i>Saad Ayub Osman Hasan</i> <i>Innovations in Systems and Software Engineering</i> , NULL Impact Factor: 0 Citations: 3 DOI: 10.1007/s11334-018-0315-8	2018
SAT Based Fitness Scoring for Digital Circuit Evolution <i>Osman Hasan Mumtaz Ali</i> <i>Journal of Circuits Systems and Computers</i> , Vol. 27, No. 06, Article Number 1850099 Impact Factor: 0.939 Quartile: 4 Citations: 1 DOI: 10.1142/S0218126618500998	2018
Runtime hardware Trojan monitors through modeling burst mode communication using formal verification <i>F. Khalid Syed Rafay Hasan Osman Hasan F. Awwad</i> <i>INTEGRATION-THE VLSI JOURNAL</i> , Volume: 61 Pages: 62-76 Impact Factor: 1.150 Quartile: 3 Citations: 21 DOI: 10.1016/j.vlsi.2017.11.003	2018
A Library for Combinational Circuit Verification Using the HOL Theorem Prover <i>Sumayya Shiraz Osman Hasan</i> <i>IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems</i> , Volume 37, Issue 2, Pages 512-516 Impact Factor: 2.402 Quartile: 2 Citations: 8 DOI: 10.1109/TCAD.2017.2705049	2018
Probabilistic Formal Verification of Communication Network-based Fault Detection, Isolation and Service Restoration System in Smart Grid <i>Osman Hasan Syed Atif Naseem Riaz Uddin Diaa E. Fawzy</i> <i>Journal of Applied Logics-Ifcolog Journal of Logics and Their Applications</i> , Volume: 5, Issue: 1, Pages: 319-365, Published: Feb 2018 Impact Factor: N/A DOI: http://www.collegepublications.co.uk/downloads/ifcolog00021.pdf	2018
Towards Probabilistic Formal Analysis of SATS-Simultaneously Moving Aircraft (SATS-SMA) <i>M. U. Sardar N. Afaq Osman Hasan K. A. Hoque</i> <i>Journal of Automated Reasoning</i> , Print ISSN:0168-7433, Online ISSN:1573-0670, Pages 1–21,, Volume 60, Issue 1, Pages 85-105, Special Issue SI Impact Factor: 1.172 Quartile: 4 DOI: 10.1007/s10817-017-9416-6	2018
Adaptive Approximate Computing in Arithmetic Datapaths <i>Sana Mazahir Osman Hasan Muhammad Shafique</i> <i>IEEE Design & Test</i> , Volume: 35, Issue: 4, Pages: 65-74 Impact Factor: 1.538 Quartile: 2 Citations: 19 DOI: 10.1109/MDAT.2017.2772874	2017
Probabilistic Error Analysis of Approximate Recursive Multipliers <i>Sana Mazahir Osman Hasan Rehan Hafiz Muhammad Shafique</i> <i>IEEE Transactions on Computers</i> , Print ISSN:0018-9340, , Volume: 66 Issue: 11 Pages: 1982-1990 Impact Factor: 3.052 Quartile: 1 Citations: 43 DOI: 10.1109/TC.2017.2709542	2017
A Framework for Laparoscopic Simulations <i>Osman Hasan Muhammad Sohail Iqbal</i> <i>Journal of Pakistan Medical Association</i> , Volume 67, Issue 9, Pages 1404-1409 Impact Factor: 0.723 Quartile: 4 DOI: http://jpma.org.pk/article-details/8358	2017
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Editorial Activities

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Reviewed Papers for Journals Impact Factor: 0.906	2018
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Reviewed Papers for Journals	2017

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Patents

Slip Ring Device with Hollow inner Core Status: Granted	2019
Automated Pipette Puller System Status: Filed	2019
Micromanipulator Cell Injection System Status: Filed	2019

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