**Ashutosh Kumar Singh**

(Ph. D., SMIEEE, MIET, CEng-UK)



Professor (Direct)

Department of Computer Applications

National Institute of Technology

Kurukshetra, Haryana, India

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Dr. Ashutosh Kumar Singh is an esteemed researcher and academician in the domain of Electrical and Computer engineering. Currently, he is working as a Professor; Department of Computer Applications; National Institute of Technology; Kurukshetra, India. He has more than 20 years research, teaching and administrative experience in various University systems of the India, UK, Australia and Malaysia. Dr. Singh obtained his Ph. D. degree in Electronics Engineering from Indian Institute of Technology-BHU, India; Post Doc from Department of Computer Science, University of Bristol, United Kingdom and Charted Engineer from United Kingdom. He is the recipient of Japan Society for the Promotion of Science (*JSPS*) fellowship for visit in University of Tokyo and other universities of Japan.

His research area includes Verification, Synthesis, Design and Testing of Digital Circuits, Predictive Data Analytics, Data Security in Cloud, Web Technology. He has more than 280 publications till now which includes peer reviewed journals, books, conferences, book chapters and news magazines in these areas. He has co-authored eight books including “Web Spam Detection Application using Neural Network”, “Digital Systems Fundamentals” and “Computer System Organization & Architecture”. Prof. Singh has worked as principal investigator/investigator for six sponsored research projects and was a key member on a project from EPSRC (United Kingdom) entitled “Logic Verification and Synthesis in New Framework”.

Dr. Singh has visited several countries including Australia, United Kingdom, South Korea, China, Thailand, Indonesia, Japan and USA for collaborative research work, invited talks and to present his research work. He had been entitled for 15 awards such as Merit Awards-2003 (Institute of Engineers), Best Poster Presenter-99 in 86th Indian Science Congress held in Chennai, INDIA, Best Paper Presenter of NSC’99 INDIA and Bintulu Development Authority Best Postgraduate Research Paper Award for 2010, 2011, 2012.

He has served as an Guest Editor, Electrical and Computer Engineering, an Editorial Board Member of International Journal of Networks and Mobile Technologies, International journal of Digital Content Technology and its Applications. Also he has shared his experience as a Guest Editor for Pertanika Journal of Science and Technology, Chairman of CUTSE International Conference 2011, Conference Chair of series of International Conference on Smart Computing and Communication (ICSCC), and as editorial board member of UNITAR e-journal. He is involved in reviewing process in different journals and conferences of repute including IEEE transaction of computer, IET, IEEE conference on ITC, ADCOM etc.

**POSITION HELD**

* **December 2013 to Until date**

Professor, Head (Jan 2015-Feb 2020, Aug 2020-Aug 2020), Department of Computer Application, **National Institute of Technology**, Kurukshetra, Haryana, India.

* **June 2019**

Japan Society for the Promotion of Science (*JSPS*) fellowship

VLSI Design and Education Center, **University of Tokyo,** Japan

* **Feb. 2007 to December 2013**

Associate Professor and Head of Department (June 2010-December 2013), Sr. Lecturer, Department of Electrical and Computer Engineering, **Curtin University**, Offshore Campus, Sarawak, Miri, Malaysia.

* **Sep. 2005 to Jan 2007**

Sr. Lecturer and Deputy Dean, Faculty of Information Technology, **University Tun Abdul Razak**, Kuala Lumpur, Malaysia.

* **Feb. 2004 to July 2005**

Post Doctoral RA, Department of Computer Science, **University of Bristol,** Bristol, UK.

* **Feb. 2002 to Feb. 2004**

Lecturer, Faculty of Information Science and Technology, **Multimedia University**, Melaka, Malaysia.

* **Nov. 2000 to Jan. 2002**

Sr. Lecturer, Department of Electronics and Communication Engineering, **National Institute of Science and Technology**, Berhampur, India.

* **Jun 1997 to Sep. 2000**

Research Scholar, Department of Electronics Engineering, **Banaras Hindu University**, Varanasi, India.

**ADMINISTRATIVE POSITION**

* Head of Department
  + Department of Computer Applications, NIT Kurukshetra (Jan 2015-Feb 2020, Aug 2020-Aug 2022)
  + Department of Electrical and Computer Engineering, Curtin University (Australia), Sarawak Campus, Malaysia (June 2010-May 2013)
* Deputy Dean of Research Faculty of Information Technology, University Tun Abdul Razak Kuala Lumpur, Malaysia (Sep 2005-Jan 2007)
* Professor In charge, Public Relation Office, NIT Kurukshetra
* Professor In Charge, Computer Center Network, NIT Kurukshetra
* Exam Superintendent, NIT Kurukshetra
* Chairman of ICECCS 2015, ICECCS 2016, ICSCC 2017, India.
* Chairman of ICMST 2014, ICINC 2014, ICCTS 2014, China.
* Chairman of 3rd CUTSE International Conference 2011, Malaysia.
* Chairman of Student & Alumni Relations School of Engineering and Science, Curtin University of Technology, Malaysia.
* Chairman of Student Recruitment Committee, School of Engineering and Science, Curtin University of Technology, Malaysia.
* Research Co-coordinator of ECEC department in Curtin University of Technology, Malaysia.
* Exam Superintendent in National Institute of Science and Technology, India

**PATENTS**

* Ashutosh Kumar Singh, D. Saxena, “Method And System For Managing Virtual Resources In A Computing Environment”, Indian Patent Application No. – 202111052883 (Under Consideration)
* Ashutosh Kumar Singh, D. Saxena, “Method And System For Securely Communicating In A Computing Environment”, Indian Patent Application No. – 202111052884 (Under Consideration)

**PUBLICATION**

340 (See the list of publication)

* Research Papers: 321 (Published/Accepted: 282, Under Review/Revision: 39)
* Books: 11
* Book Chapters: 8
* SCI Journals: 76
* SCOPUS Indexed: 224
* Non Refereed Research Papers/Technical Magazines/News Papers: 24

**FELLOWSHIP/SCHOLARSHIP**

1. Japan Society for the Promotion of Science (*JSPS*) fellowship for short term visit in University of Tokyo and other Universities, 2019
2. Indian National Scholarship during 1988-1993, India

**AWARDS**

16

**Best Paper**

1. Real Time Human Locator and Advance Home Security Appliances, (with A. Kesharwani, A. Nag, A. Tiwari, I. Gupta, B. Sharma), *International Conference on Evolutionary Computing and Mobile Sustainable Networks*, Bangalore, India, Feb. 2020.
2. Cloud Resource Demand Prediction using Differential Evolution based Learning Scheme (with Jitendra Kumar), *7th International conference on Smart Computing and Communications (ICSCC-2017),* Curtin University, Malaysia, June, 2019.
3. Optimal VM Placement Model for Load Balancing in Cloud Data Centers (with Sakshi Chhabra), *7th International conference on Smart Computing and Communications (ICSCC-2017),* Curtin University, Malaysia, June, 2019.
4. A Probability based Model for Data Leakage Detection using Bigraph, (with Ishu Gupta), *7thInternational Conference on Communication and Network Security (ICCNS 2017),* Nov. 2017, Tokyo, Japan.
5. An emotion recognition model based on facial recognition in virtual learning environment, (with D. Yang, A. Alsadoon, P.W.C. Prasad, A.K. Singh, A. Elchouemi), *6thInternational conference on Smart Computing and Communication Systems (ICSCC-2017),* NIT, Kurukshetra, India*,* 7-8 December, 2017. (*Track: Artificial Intelligence and Knowledge Computing*)
6. In depth comparative analysis of reversible gates for designing logic circuits, (with Hari Mohan Gaur, Singh), 6th*International conference on Smart Computing and Communication Systems (ICSCC-2017),* NIT, Kurukshetra, India, 7-8 December, 2017.*(Track: VLSI Systems)*
7. Dynamic Resource Scaling in Cloud Using Neural Network and Blackhole Algorithm, (with Jitendra Kumar),*5thInternational conference on Eco-friendly Computing and Communication Systems (ICECCS-2016)*, NIT, Bhopal, India, 8-9 December, 2016.*(Track: Ubiquitous Intelligence and Cyber Physical Computing)*
8. Video foreground detection in non-static background using multi-dimensional color spaces, (with Thangarajah Akilan, Jonathan Wu, Bakri Madon and Adib Kabir Chowdhury), *4thInternational Conference on Eco-friendly Computing and Communication Systems (ICECCS)*, NIT, Kurukshetra, 7-8 December 2015. (*Track:* ***Sustainable ICT and Green/Energy-efficient Engineering*)**
9. Efficient Three Variables Reversible Logic Synthesis Using Mixed-Polarity Toffoli Gate, (with Chua Shin Cheng, Lenin Gopal), *4thInternational Conference on Eco-friendly Computing and Communication Systems (ICECCS)*, NIT, Kurukshetra, 7-8 December 2015. (*Track: Nano-Electronics and Nano-technology***)**
10. Preserving Privacy of Patients based on Re-identification Risk, (with Himanshu Taneja, Kapil),*4thInternational Conference on Eco-friendly Computing and Communication Systems (ICECCS)*, NIT, Kurukshetra, 7-8 December 2015.(*Track: Reliability and Information Security***)**
11. Fault detection using Reed-Muller spectral coefficients, (with Naveen Gupta, Anand Mohan and S. K. Kak), *86th Indian Science Congress,* Chennai, India, 1999.
12. Determination of R-M Coefficient Using OBDD, (with Anand Mohan and S. K. Kak) *23rd National System Conference,* Institute of Technology, B. H. U. Varanasi, India, 1999.

**Bintulu Development Authority Best Postgraduate Research Paper Award**

1. Link Based Spam Algorithms in Adversarial Information Retrieval, (with Alex Goh Kwang Leng, Ravi Kumar P., Ashutosh Kumar Singh, Anand Mohan), Cybernetics and Systems An International Journal, vol. 43, iss 4, pp. 459-475, December 2012.
2. Efficient Methodologies to Handle Pages using Virtual Node, (with Ashutosh Kumar Singh, Ravi Kumar P, Alex Goh Kwang Leng), *Journal of Cybernetics and Systems*, Taylor & Francis, vol. 42, pp. 621-635, Dec. 2011.
3. Web Structure Mining Exploring Hyperlinks and Algorithms for Information Retrieval, (with Ravi Kumar and Ashutosh Kumar Singh), *American Journal of Applied Sciences*, vol. 7, pp. 840-845, 2010.

**Merit Award**

1. A New Method for GRM Coefficients Computation Using Positive Polarity, (with Ashutosh Kumar Singh and Anand Mohan),*The Institute of Engineers* (*Computer Division*) Vol. 84, pp. 4-8, May 2003.

**RESEARCH COLLABORATION**

* University of Tokyo, Japan
* The University of Melbourne, Australia
* National Sun Yat-sen University, Kaohsiung, Taiwan
* Kyushu Institute of Technology, Fukuoka, Japan
* Charles Stuart University, Sydney, Australia

**EDITORSHIP**

1. Associate Editor, Computer and Electrical Engineering (SCI Indexed)
2. Guest Editor, Recent Advances and Challenges in Quantum-Dot Cellular Automata, Computer and Electrical Engineering (SCI Indexed)
3. Procedia Computer Science, vol. 125, 2017
4. IEEE Explorer, 2016. Fifth International Conference on Eco-friendly Computing and Communication Systems
5. Procedia Computer Science, vol. 70, 2015
6. FIT News letter, 01/09/2005 to 31/01/2007
7. Journal of Science & Technology, Partanika (Special Issues, Editor), 2006, 2017
8. *“Glottis: An Analog Model: Analysis and Design Glottis in CMOS for low power Auditory Processors”, Lambert Publications,* <https://www.abebooks.com/Glottis-Analog-Model-Analysis-Design-CMOS/22762747479/bd> *(ISBN: 6135817388), Feb 2018.*

**PROFESSIONAL MEMBERSHIP**

* Nominated for IEEE fellow
* Charted Engineer IET (UK) (July, 2013 – Till Date)
* Senior Member of Institute of Electrical and Electronics Engineers (Feb, 2015 – Till Date)
* Member of the Institution of Electrical Engineers (IEE) UK (July, 2010 – Dec, 2012)

**RESEARCH GRANTS**

Total Number of Grants: 6

|  |  |  |  |
| --- | --- | --- | --- |
| **Role** | **Title of the Research Grants** | **Amount and Place** | **Period** |
| Main. Supervisor | Visvesvaraya PhD Scheme for Electronics & IT | 58.32 Lakh (INR)  2 Ph. D. Scholarship | 2015-2020 |
| Co-Principle Investigator | Intelligent real time situation awareness and Decision Support System for Indian Defense (*DRDO India*) | 40.524 Lakh (INR)  NIT, KKR | 2016-2018 |
| Principal Investigator | [Adaptive Low Power System-on-Chip Architectures](http://ernd.mosti.gov.my/eScience/Appli/frmApp_App_ProjId.aspx?qstrprojID=f3cf5e64-03e2-4efc-b7fd-11f14d62045a&qstrmode=EDIT&source=Appli/frmApp_App_Find_RESEA.aspx&status=PE) (*MOSTI, Malaysia*) | 139,000 (MYR)  Curtin University, Malaysia | 2012-2014 |
| Principal Investigator | Design and Implementation of Power Efficient Algorithm for Information Signal Processing, (CSCR, Curtin University of Technology, Malaysia) | 50,000 (MYR)  Curtin University, Malaysia | 2009-2012 |
| Principal Investigator | An Efficient Logic Synthesis Approach with Testability Using MODD, (CSRF, Curtin University of Technology, Malaysia) | 10,000 (MYR)  Curtin University Malaysia | 2008-2009 |
| Principal Investigator | Application of Decision Diagrams in Synthesis, Design and Testing of VLSI, Multimedia University, Malaysia, | 4,000 (MYR)  Multimedia University, Malaysia | 2003-2004 |

**PH. D. SUPERVISION**

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| --- | --- | --- | --- | --- | --- |
| **SR No.** | **Name** | **Institute** | **Duration** | **Area** | **Status** |
|  | Ishu Gupta | Department of Computer Applications, NIT Kurukshetra, India | Feb 2016 – Feb 2021 | Data Protection in Cloud Computing Environments | Awarded |
|  | Sakshi Chhabra | Department of Computer Applications, NIT Kurukshetra, India | Oct 2015 – Oct. 2020 | Load Balancing Models for Resource Allocation in Cloud Computing | Awarded |
|  | Jitendra Kumar | Department of Computer Applications, NIT Kurukshetra, India | Oct 2015 – June 2019 | Machine Learning Models for Cloud Resource Management | Awarded |
|  | Hari Mohan Gaur | Department of Electronics and Communication Engineering, NIT Kurukshetra, India | Aug 2014 – June 2018 | Testable Designs of ToffoliFredkin Reversible Circuits | Awarded |
|  | Trilokya Nath Sasamal | Department of Electronics and Communication Engineering, NIT Kurukshetra, India | Jan 2014 –Jan 2018 | Optimal Design for Quantum–Dot Cellular Automata Based Logic Circuits | Awarded |
|  | Nikhil Raj | Department of Electronics and Communication Engineering, NIT Kurukshetra, India | May 2011 – Jun 2016 | Design of Low Voltage High Performance Current Mirrors using Quasi-Floating Gate MOSFET | Awarded |
|  | Chua Chin | Department of Electrical and Computer Engineering, Curtin University, Miri, Malaysia | Oct 2012 – Oct 2016 | Reversible Logic and Quantum Computing | Awarded |
|  | P. Ravi Kumar | Department of Electrical and Computer Engineering, Curtin University, Miri, Malaysia | Jul 2009 – Jun 2014 | Link Analysis Algorithms to Handle Hanging and Spam Pages | Awarded |
|  | P. W. Chandana Prasad\* | Faculty of Information Science and Technology, Multimedia University, Malaysia | Jul 2003 – Jun 2007 | Methods for Simplification and Estimation of Digital Circuit Complexities using Binary Decision Diagrams | Awarded |
|  | Jatinder Kumar | Department of Computer Applications, NIT Kurukshetra, India | Jan 2020-Onwards | Data Security | In Progress |
|  | Deepika Saxena | Department of Computer Applications, NIT Kurukshetra, India | September 2018 – Onwards | Machine Learning based Resource Management in Cloud Computing | In Progress |
|  | Rishab Gupta | Department of Computer Applications, NIT Kurukshetra, India | April 2018 - Onwards | Big Data and Cloud Computing | In Progress |
|  | Smruti Rekha Swain | Department of Computer Applications, NIT Kurukshetra, India | Jan 2021-Onwards | Cloud Computing | In Progress |
|  | Puja Rani | Department of Computer Applications, NIT Kurukshetra, India | Jan 2022-Onwards | Machine Leaning in Cloud Computing | In Progress |
|  | Yogveer Lamba | Department of Computer Applications, NIT Kurukshetra, India | Jan 2022-Onwards | IoT and Cloud Computing | In Progress |

\* He worked under my supervision but submitted thesis under other supervisor because I left the University

**M. Phil. SUPERVISION**

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| **SR No.** | **Name** | **Institute** | **Duration** | **Area** | **Status** |
| 1. | Adib Kabir Chaudhari | Curtin University Malaysia | Jan 2012 – Jun 2014 | Efficient Methods for Synthesis of Multi-Valued Logic | Awarded |
| 2. | Billy PikLik | Curtin University, Miri, Malaysia | Jul 2011 – Jan 2014 | Multi Agent System | Awarded |
| 3. | Alex Goh Kwang Leng | Curtin University, Miri, Malaysia | Jan 2011 – Apr 2013 | Methods for Demoting and Detecting Web Spam | Awarded |

**RESEARCH ASSISTANT SUPERVISION**

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| --- | --- | --- | --- | --- |
| **SR No.** | **Name** | **Institute** | **Duration** | **Area** |
| 1. | Deepshikha | NIT Kurukshetra, India | Jan 2017 –June 2017 | Big Data and Cloud Computing |
| 2. | Rekha | NIT Kurukshetra, India | Jan 2017 - June 2017 | Big Data and Cloud Computing |
| 3. | Rimsha Goomer | NIT Kurukshetra, India | July 2016 – June 2017 | Big Data and Cloud Computing |
| 4. | Niharika Singh | NIT Kurukshetra, India | June 2015 - June 2017 | Big Data and Cloud Computing |
| 5. | Tang Sing Yee | Curtin University, Sarawak Campus, Malaysia | Jan 2013 - Dec 2013 | Web Technology |
| 6. | Nikhil Raj | Curtin University, Malaysia | Apr 2013 - Jun 2014 | Low Power Circuit Design |
| 7. | Jason Rong Kun Tan | Curtin University, Malaysia | July 2012 - June 2013 | Web Technology |

**CONFERENCE/FACULTY DEVEOPLEMENT PROGRAM WORKSHOP ORGANIZED**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sr. No. | Title of the conference | Level | Duration | | As Chairman/ Secretary | Venue |
| National/ International | From | To |
| i. | International Conference on Smart Computing and Communications | International | 07/12/2017 | 08/12/2017 | Chairman | NIT Kurukshetra |
| ii. | International Conference on Eco-friendly Computing and Communication Systems | International | 08/12/2016 | 09/12/2016 | Program Chair | MANIT Bhopal |
| iii. | International Conference on Eco-friendly Computing and Communication Systems | International | 07/12/2015 | 08/12/2015 | Program Chair | NIT Kurukshetra |
| iv. | International Conference on Manufacturing Science and Technology | International | 07/06/2014 | 08/06/2014 | Chairman | School of Engineering and Science, Curtin University, Malaysia |
| v. | International Conference on Intelligent Network and Computing | International | 07/06/2014 | 08/06/2014 | Chairman | School of Engineering and Science, Curtin University, Malaysia |
| vi. | International Conference on Computer Technology and Science | International | 07/06/2014 | 08/06/2014 | Chairman | School of Engineering and Science, Curtin University, Malaysia |
| vii. | CUTSE International Conference 2011 | International | 08/11/2011 | 09/11/2011 | Chairman | School of Engineering and Science, Curtin University, Malaysia |
| viii. | First International Conference on Science in Hindi | International | 22/08/2017 | 22/08/2017 | Chairman | NIT Kurukshetra |

**INVITED/EXPERT TALKS**

1. “Internet of Things”, Raj Kumar Goel Institute of Technology, Ghaziabad, India, July 2020.
2. “Cyber Physical System”, Jai Parkash Mukand Lal Innovative Engineering and Technology Institute (JMIETI), Radaur, India Feb. 2020.
3. “Testable Design of Reversible Circuits”, University of Kyoto, Kyoto, Japan, June, 2019.
4. “Logic Design for Quantum Computers”, Kyushu Institute of Technology, Iizuka*,* Fukuoka, Japan, June 2019.
5. “Cyber Physical System and Internet of Things”, Curtin University, Miri, Sarawak, Malaysia, Feb 2019.
6. “Cyber Physical System”, UIET, Kurukshetra University, India, December 2019.
7. “Cloud Computing”, Kurukshetra University, India, December 2019.
8. “Testing in Reversible Logic Circuits”, University of Tokyo, Japan, Nov. 2017.
9. “Recent Advancement in Formal Verification Techniques using Multivalued Decision Diagrams”, Hong Kong University of Science and Technology, Hong Kong, July 2013.
10. “Techniques for Representing Multiple Output Binary Functions with Applications to Verification and Simulation”, Indian Institute of Technology, BHU, India, Nov. 2012.
11. “Techniques for Representing Multiple Output Binary Functions with Applications to Verification and Simulation”, National Institute of Technology, KKR India, Feb 2011.
12. “Ranking and Spam Detection Algorihtms”, University of Battambang, Kambodia, April 2011.
13. “MODDs and its Applications”, San Francisco State University, San Francisco, USA, December, 2005.
14. “Formal Verification Techniques”, Institute of Technology, BHU, Varanasi, India, August, 2005.
15. “Galois Decomposition of Boolean Functions: An Efficient Synthesis Approach with High Testability”, University of New Castle. New Castle, UK, July, 2005.
16. “Decision Diagrams and Their Derivatives”, Oxford Brookes University, Oxford, UK, Jan, 2005.

**KEYNOTE/TUTORIAL SPEAKER**

1. Data Security in Cloud Computing “3rd International conference on Big Data”, Seoul, South Korea, Aug 15-18, 2022.
2. “7th IEEE International Conference on Smart Computing & Communications”, Curtin University, Miri, Malaysia June 2019.
3. “IEEE International Conference on Knowledge Discovery in Science and Technology”, JSPM's JSCOE, Pune, India, Feb 2019.
4. NAAC sponsored National Seminar on “Information and Communication Technology (ICT) and Systematic Teaching" Mugberia Gangadhar Mahavidyalaya, West Bengal, India, Dec 2018.
5. “3rd International Conference on Recent Trends in Computer Science and Technology”, R.V.S College of Engineering and Technology, Jamshedpur, India, April, 2018.
6. “3rdInternational Conference on Recent Trends in Computer Science and Technology (ICRTCST-2017)” April, 2018 R.V.S College of Engineering and Technology, Jamshedpur, India.
7. “International conference on Advanced Computing (ICAC 2017)” May 6, 2017 Teerthanker Mahaveer University, Moradabad, India
8. “2ndInternational Conference on Recent Trends in Computer Science and Technology (ICRTCST-2017)” April 20-21, 2017 R.V.S College of Engineering and Technology, Jamshedpur, India.
9. “IEEE International Conference on Advanced Computing and Software Engineering (ICACSE-16)” October 14-15, 2016 Kamla Nehru Institute of Technology, Sultanpur, India.
10. “2nd IEEE International Conference on Computing, Communication and Automation – ICACCA 2016, 30 Sept – 01 Oct 2016, MJP Rohilkhand University, Bareilly India.
11. “National Conference on Role of Information and Communication Technology in Transforming Education” 27 February 2015, Bahara University Shimla, India.
12. “2nd IEEE International Conference on Emerging Technology Trends in Electronics, Communication and Networking” 26-27 December 2014, SVNIT, India.
13. “Recent Advances in Verification”, National Conference on Research and Innovations in Electronics and Communications Engineering, 10-11 October 2014, NIET, Greater Noida, India.
14. “Second International Conference on Advances in Electronic Devices and Circuits – EDC 2013”, 4-5 May 2013, Kuala Lumpur Malaysia.
15. “Recent Advancement in Ranking and Web Spam Algorithm, International conference on Artificial Intelligence and soft computing, Department of Computer Engineering, Institute of Technology BHU, 7-9 Dec 2012, India
16. “Recent Advances in Verification, Equivalence Checking & SAT-Solvers”, ASTED International Conference on Advances in Computer Science and Technology (ACST 2008), Apr 02, 2008 to Apr 04, 2008, Langkawi, Malaysia.

**ATTENDED CONFERENCES FOR PRESENTING PAPERS**

1. “7th IEEE International Conference on Smart Computing & Communications”, Curtin University, Miri, Malaysia, June 2019.
2. “IEEE International Conference on Knowledge Discovery in Science and Technology”, JSPM's JSCOE, Pune, India, Feb 2019.
3. Seventh International Conference on Communication and Network Security (ICCNS 2017), November 24-26, 2017, University of Tokyo, Japan.
4. IEEE International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET2016), March 23-25, 2016, SSN College of Engineering, Chennai, India.
5. 2nd IEEE International Conference on Computing, Communication and Automation – ICACCA 2016, 30 Sept – 01 Oct 2016, MJP Rohilkhand University, Bareilly India.
6. IEEE International Conference on Emerging Technology Trends in Electronics, Communication and Networking” 26-27 December, 2014, SVNIT, India
7. IEEE Sixth International Conference on Advanced Computational Intelligence (ICACI) 2013, Hanzhou, China.
8. IEEE Conference IRKE 2012, July 2012, Jakarta, Indonesia.
9. IEEE Conference TENCON2011, Nov 21-24, 2011. Bali, Indonesia.
10. IEEE 6th International Conference on Digital Content, Multimedia Technology and its Applications 2010, Aug 16-18, 2010, Seoul, Korea.
11. International Conference on Teacher Education, July 29-31, 2010, Manila, Philippines.
12. International Conference on Higher Education for Sustainable Development 20 to 22 November 2009, Penang, Malaysia.
13. IEEE International Conference on Testing and Diagnosis (ICTD) 2009, April 28-29, 2009, Chengdu, China.
14. IEEE International Conference on Computer and Electrical Engineering (ICCEE) 2008, 19-21 December 2008, Phuket, Thailand.
15. International Conference on Engineering and ICT 2007, Nov. 27-28, 2007, Melaka, Malaysia.
16. IEEE International High-Level Design Validation and Test Workshop, HLDVT 2005, Dec. 1-2 2005, Napa, California, USA.
17. SoC Design, Test and Technology 2004, September 15, 2004, Loughborough University, Loughborough, UK.
18. International Council for Industrial and Applied Mathematics (ICIAM) 2003, July 7-10, 2003, Sydney, Australia.
19. Asian Technology Conference in Mathematics (ATCM) 2002, Dec. 17-21, 2002, Multimedia University Malaysia.
20. CIT’2001, Dec. 20-22, 2001, National Institute of Science and Technology, India.
21. NCCIDM’ 2001, May 14-15, 2001, AITS, Coimbatore, India.
22. OTAET’2001, Sep. 22-23, 2001, Raja Balwant Singh College Agra, India.
23. ELECTRO’ 2001, Jan. 3-6, 2001, Institute of Technology, B. H. U., Varanasi, India.
24. ICSE’2000, Apr. 26-27, 2000, Institute of Technology, B. H. U., Varanasi, India.
25. 87th Indian Science Congress, Jan. 3-7, 2000, Pune University, Pune, India.
26. 23rdNational Systems Conference (NSC) 1999, Dec. 9-11, 1999, Institute of Technology, B. H. U., Varanasi, India.
27. DIGIVISION’99, Mar. 12-14, 1999, Allahabad University, Allahabad, India.
28. NCEMDS’99, Jan. 18-20, 1999, Gulbarga University, Gulbarga, India.
29. 86th Indian Science Congress, Jan. 3-7, 1999, Anna University, Chennai, India.

**SUBJECT TAUGHT**

1. Digital System Design
2. Computer Structure
3. Engineering Programming
4. Automata Theory
5. Artificial Machine Intelligence
6. Design and Analysis of Algorithm
7. Operating Systems
8. Project Management Design
9. Algorithms and Data Structure (C++)
10. Computer Architecture
11. Real Time Systems
12. Programming-I (C)
13. System Integration
14. Research Methodology
15. System Reliability
16. Data Communication
17. Digital Signal Processing
18. Digital Systems
19. Electronics Device and Circuit
20. Data Base system

**MASTERS STUDENT SUPERVISION**

51

**UNDERGRADUATE SUPERVISION**

9

**SELECTED ACADEMIC CONTRIBUTIONS**

1. Designed Courses for different program
2. Developed several research and undergraduate labs
3. Leaded accreditation team for Washington Accord, Malaysian and Australian Accreditation system
4. Course coordinator of Real Time System, System Reliability and Digital Circuit in Multimedia University
5. Member of Educational Innovation Committee, Multimedia University
6. Editor of FIT News letter

**PROFESSIONAL RESPONSIBILITIES**

1. Convener; “National IT Challenge for Youth with Disabilities” 25-26 July 2019, National Institute of Technology, Kurukshetra.
2. Convener; “National IT Challenge for Youth with Disabilities” 25-26 June 2018, National Institute of Technology, Kurukshetra.
3. Member; Research Devolvement Committee, Dr. A.P.J. Abdul Kalam Technical University, India.
4. Program Chair; “6th International Conference on Smart Computing & Communication (ICSCC 2017)” 7-8 December 2017, National Institute of Technology, Kurkushetra.
5. Convener; “National IT Challenge for Youth with Disabilities” 20-21 July 2017, National Institute of Technology, Kurukshetra.
6. Convener; “Two Days Workshop on VISAKA (Vittiya Saksharta Abhiyan)” 4-5 January 2017, National Institute of Technology, Kurukshetra.
7. Program Chair; “5th International Conference on Eco-friendly Computing & Communication System (ICECCS 2016)” 8-9 December 2016. Maulana Azad National Institute of Technology, Bhopal, India.
8. Convener; “National IT Challenge for Youth with Disabilities” 19-20 July 2016, National Institute of Technology, Kurukshetra.
9. Program Chair; “4thInternational Conference on Eco-friendly Computing & Communication System (ICECCS 2015)” 7-8 December 2015, National Institute of Technology, Kurukshetra.
10. Convener; “Digital India Week” 07-21 August 2015, National Institute of Technology, Kurukshetra.
11. Convener; “One Day Awareness Program on National Mission on Education through Information and Communication Technology” 27th September 2014, National Institute of Technology, Kurukshetra.
12. Technical Session Chair of National Conference on Research and Innovations in Electronics and Communications Engineering, 10-11 October 2014, NIET, Greater Noida, India.
13. Editor; Procedia Computer Science (Vol. 70 and Vol. 125)
14. Guest Editor; Pertanika Journal of Science and Technology of CUTSE International Conference 2011
15. Chairman of CUTSE International Conference 2011.
16. Session Chair of IEEE IDC 2010, Aug 16-18, 2010, Seoul, Korea.
17. Who's Who in the World, USA, 2009
18. Member of Editorial Board (1) International Journal of Terahertz and Nanophotonics (2) International Journal on Network and Mobile Technologies
19. International Committee member of Advances in Computer Science andEngineering ACSE 2009, March 16 – 18,2009, Phuket
20. Member of Editorial Board of UNITAR e-journal.
21. Helped in selection of reviewers for Prof. D. K. Pradhan (Associate Editor of IEEE Transaction of computer)

**MEMBER OF INTERNATIONAL COMMITTEES**

1. World Conference on Science and Technology Education, 2013.
2. IEEE International Conference ICISCI 2011, China
3. International Association for Information, Culture, Human and Industry Technology, 2011
4. International Conference Chair (from Malaysia) IEEE International Conference ICISCI 2011, China.
5. Committee Member 5th International Conference on New Trends in Information Science and Service Science, 2011
6. North-East Asia Symposium on Nano, Information Technology and Reliability, 2011.
7. IEEE International Conference ICCIT and IMS South Korea 2010.
8. 4th National Level Workshop titled “Intelligent Data Analytics and Image Processing (IDAIP 2010), India.
9. The Sixth IASTED International Conference on Advances in Computer Science and Engineering Canada International 2009.

**PhD EXTERNAL EXAMINER (Selected)**

1. Institut Teknologi Riam Malaysia
2. Institute for Postgraduate Studies, Multimedia University, Malaysia
3. Multimedia University, Malaysia.
4. Institute of Technology-BHU, Varanasi, India.
5. Indian Institute of Technology Roorkee, India.
6. National Institute of Technology Raipur, India.
7. National Institute of Technology Bhopal, India.
8. Faculty of Information and Communication Engineering, Anna University, India
9. Sardar Vallabhbhai National Institute of Technology, Surat, India.
10. Jaypee University, Solan, India.

**REVIEW BOARD MEMBER**

**SELECTED Journals:**

1. IEEE Transactions on Computer.
2. IET Circuit Device and Systems.
3. IET Letters
4. Elsevier Journals
5. Journal of Science and Technology.
6. Journal of Semiconductor.
7. Pertanika Journal of Science and Technology.

**SELECTED Conferences:**

1. IEEE International Conference ICISCI 2011
2. IEEE International Conference ICCIT 2011
3. IEEE International Conference CITISIA 2009
4. CUTSE 2009
5. CUTSE 2008
6. IEEE International Conference ADCOM 2004
7. IEEE International Conference ITC 2004

**PROFESSIONAL TRAINING**

1. Teaching and learning training (Curtin University of Technology, Malaysia, 2007)
2. Teaching and learning in higher education program (University of Bristol, UK, 2004)
3. Accent Reduction Course (Multimedia University, Malaysia, 2003)

**QUALIFICATION**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sr.**  **No.** | **Degree Obtained & Branch / Specialization** | **Name of the Board/ University / Institution** | **Year of**  **passing** | **Class/ Division** |
|  | Post Doc  (Computer Science) | Department of Computer Science, University of Bristol, UK | 2005 | N/A |
|  | Ph.D. \*  (Electronics Engineering) | Department of Electronics Engineering, Indian Institute of Technology, BHU, India | 2000 | N/A |
|  | Master’s Degree  M. Sc. Physics (Electronic Specialization) | Kashi Naresh Post Graduate Government College, Poorvanchal University, UP, India | 1995 | First Division |
|  | Bachelor’s Degree  B. Sc, Physics, Math, Chemistry | Kashi Naresh Post Graduate Government College, Poorvanchal University, UP, India | 1993 | First Division |

\* Ph. D. Thesis entitled “Some New Spectral Methods for Fault Detection in Combinational Circuit”.

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**PUBLICATIONS**

Citation: 3582, H-Index: 28, I-Index: 99

**Books:**

***Authored***

1. Jitendra Kumar, Ashutosh Kumar Singh, Anand Mohan and Rajkumar Buyya, “Machine Learning for Cloud Management”, CRC Press, <https://www.routledge.com/Machine-Learning-for-Cloud-Management/Kumar-Singh-Mohan-Buyya/p/book/9780367622565> (ISBN 9781003110101), 2021.
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1. Gurdeep Singh Hura, Ashutosh Kumar Singh, Lau Siong Hoe, “Advances in Communication and Computational Technology”, Proceeding of ICACCT 2019, Springer, (ISBN: 978-981-15-5341-7), 2020.
2. Ashutosh Kumar Singh, Masahiro Fujita, Anand Mohan, “Design and Testing of Reversible Logic” Lecture Notes in Electrical Engineering, vol. 577, Springer, <https://link.springer.com/book/10.1007%2F978-981-13-8821-7#editorsandaffiliations>, (ISBN: 978-981-13-8820-0), 2020.
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1. Ishu Gupta, Ankit Tiwari, Priya Agarwal, Sloni Mittal, and Ashutosh Kumar Singh, “Dodging Security Attacks and Data Leakage Prevention for Cloud and IoT Environments”, *in Intelligent Analytics for Industry 4.0 Applications*, FL, USA, CRC Press-Taylor & Francis Group, 2022. (In Press)
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1. Ashutosh Kumar Singh, Rishabh Gupta, and Deepika Saxena, “Differential and TriPhase adaptive learning-based Privacy-Preserving Model for Medical Data in Cloud Environment”, *IEEE Networking Letters*, (*SCI*, *impact factor* = 2.6).
2. Ashutosh Kumar Singh and Smruti Rekha Swain and Chung Nan Lee, “A Metaheuristic Virtual Machine Placement Framework towards Power Efficiency of Sustainable Cloud Environment”, *Journal of Soft Computing*, Springer (*SCI*, *impact factor* = 3.732)
3. Deepika Saxena, Ashutosh Kumar Singh, “A High Availability Management Model based on VM Significance Ranking and Resource Estimation for Cloud Applications”, *IEEE Transactions on Services Computing*, 2022 (*SCI*, *impact factor* = 11.019)
4. Ashutosh Kumar Singh and Jatinder Kumar, “A Privacy-Preserving Multidimensional Data Aggregation Scheme with Secure Query Processing for Smart Grid”, *The Journal of Supercomputing, (SCI, impact factor* = 2.557*)*
5. Rishabh Gupta, Ishu Gupta, Deepika Saxena, Ashutosh Kumar Singh “A Differential Approach and Deep Neural Network based Data Privacy-Preserving Model in Cloud Environment”, *Journal of Ambient Intelligence and Humanized Computing,* 2022, (*SCI, impact factor* = 3.662)
6. Rishabh Gupta, Deepika Saxena, Ishu Gupta, and Ashutosh Kumar Singh, “Quantum Machine Learning-Driven Malicious User Prediction Model for Secure Cloud Communications”*, IEEE Networking Letters* (*SCI, impact factor* = 2.6)
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8. Ishu Gupta, Ashutosh Kumar Singh, “GUIM-SMD: Guilty User Identification Model using Summation Matrix based Distribution”, *IET Information Security*, vol. 14, iss. 6, pp. 773-782. Nov 2022. (*SCI*, *impact factor* = 1.371)

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2. Aaisha Makkar, Tae Woo Kim, Ashutosh Kumar Singh, Jungho Kang, Jong Hyuk Park “SecureIIoT Environment: Federated Learning empowered approach for Securing IIoT from Data Breach”, *IEEE Transactions on Industrial Informatics*, vol. 18, iss. 9, pp. 6406-6414, Sep 2022.(*SCI*, *impact factor* = 10.215)

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1. Rishabh Gupta, and Ashutosh Kumar Singh, “A Differential Approach for Data and Classification Service based Privacy-Preserving Machine Learning Model in Cloud Environment”, *New Generation Computing*, Jul 2022. (*SCI*, *impact factor* =1.048).

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2. Rishabh Gupta and Ashutosh Kumar Singh, “Differential and access policy based privacy-preserving model in cloud environment”, *Journal of Web Engineering*, vol. 21, iss. 3, pp. 609-632, Feb 2022. (*SCI, impact factor* = 0.74)

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3. Deepika Saxena, Ashutosh Kumar Singh, “OSC-MC: Online Secure Communication Model for Cloud Environment”, *IEEE Communications Letters*, Early access, vol. 25, iss. 9, pp. 215-220, Apr. 2021. (*SCI*, *impact factor* = 3.436)

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3. Jitendra Kumar, Ashutosh Kumar Singh, “Performance assessment of time series forecasting models for cloud datacenters’ workload prediction”, *Wireless Personal Communications*, vol. 116, issue 3, pp. 1949-1969, Feb. 2021. (*SCI, impact factor* = 1.671)

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