

SSN COLLEGE OF ENGINEERING, KALAVAKKAM - 603110

Department of Electronics & Communication Engineering

STUDENT PUBLICATIONS

June 2018 to May 2019

B.E. - ELECTRONICS & COMMUNICATION ENGINEERING

International Journals:

1. Rapuru Srinithya (UG-ECE 2014-2018 batch), E. Velkani (UG-ECE 2014-2018 batch), M. Gulam Nabi Alsath (Faculty/ECE), S. Kirubaveni (Faculty/ECE), "Design and Implementation of Microwave Based Ethanol Sensor", International Journal of Pure and Applied Mathematics, vol. 120, no. 6, pp. 1197-1208, June 2018. (Scopus Indexed, SJR: 0.14)
2. Praveen Narayan (UG-ECE 2015-2019 batch), P. Sivasankar (UG-ECE 2015-2019 batch), K. Vimalraj (UG-ECE 2015-2019 batch), R. Jayaparvathy (Faculty/ECE), "Smart Wiper System for Skyscrapers", International Research Journal of Engineering and Technology, vol. 5 (10), pp. 1718-1727, October 2018.
3. C. Vinoth Kumar (Faculty/ECE), V. Natarajan (MIT/Chennai), K. Nirmala (Faculty/BME), T. Balasubramanian (UG-ECE 2013-2017 batch), K. Ramnarayanan Rao (UG-ECE 2013-2017 batch), S. Krishnan (UG-ECE 2013-2017 batch), "Encrypted separable reversible watermarking with authentication and error correction", Multimedia Tools and Applications, vol. 78, no. 6, pp. 7005-7027, March 2019. (Thomson Reuters, IF: 1.541)
4. S. Pramodh Kumar (UG-ECE 2015-2019 batch), K. Raeshak (UG-ECE 2015-2019 batch), Aadesh Samdaria (UG-ECE 2015-2019 batch), C. Annadurai (Faculty/ECE), "Robotic Floor Cleaner Using Bluetooth Technology", International Journal of Advance Research and Innovative Ideas in Education (IJARIIE), vol. 3 (5), 2019.

International Conferences:

1. S. Dyaneshwar (UG-ECE 2014-2018 batch), K. Monica (UG-ECE 2014-2018 batch), G. Jaiyashri (UG-ECE 2014-2018 batch), R. Amutha (Faculty/ECE), "Cloud Assisted Recovery Scheme for compressively sensed medical sensor data" in Proc. of International Conference on System, Computation, Automation and Networking (ICSCAN 2018), July 6-7, 2018, Manakula Vinayagar Institute of Technology, Pondicherry.
2. J. Renita (RS/ECE), N. Edna Elizabeth (Faculty/ECE), Niveditha Shankar (UG-ECE 2014-2018 batch), R. Shyam Sundar (UG-ECE 2014-2018 batch), K. Sruthi (UG-ECE 2014-2018 batch), "Comparison of Public Key Algorithms for Lightweight and Low

- Cost System”, in Proc. of 10th International Conference on Advanced Computing (ICoAC 2018), pp. 224-228, December 12-15, 2018, MIT, Chennai.
3. G. Harine (UG-ECE 2016-2020 batch), B. Sakthi Abirami (RS/ECE), B. Harini (UG-ECE 2016-2020 batch), S. Esther Florence (Faculty/ECE), S. Indulakshmi (UG-ECE 2014-2018 batch), “Design and Analysis of Novel EBG/AMC Unit cell”, in Proc. of 5th International Conference on Advanced Computing and Communication Systems, pp. 684-688, 16 March 2019, Sri Eshwar College of Engineering, Coimbatore. (**Best Paper Award**)
 4. V. S. Muthu Lekshmi (UG-ECE 2015-2019 batch), K. Harish Kumar (UG-ECE 2015-2019 batch), N. Venkateswaran (Faculty/ECE), “Efficient Computation of Sparse Spectra using Sparse Fourier Transform” in Proc. of 2nd International Conference on Emerging Current trends in Engineering and Management, March 22-24, 2019, Panimalar Engineering College, Chennai.
 5. S. A. Thirumalini (UG-ECE 2015-2019 batch), D. Deepika (UG-ECE 2015-2019 batch), K. Muthumeenakshi (Faculty/ECE), S. Sakthivel Murugan (Faculty/ECE), “Detection of galvanic cell battery for underwater applications using seawater as electrolyte” in Proc. of International Conference on Emerging Trends in Science Engineering & Technology (ICETSET 2019), 22 March 2019, Jerusalem College of Engineering, Chennai.
 6. B. Harini (UG-ECE 2016-2020 batch), M. S. Vignesh (UG-IT 2015-2019 batch), S. Esther Florence (Faculty/ECE), A. Abhirami (RS/ECE), Abanah (RS/ECE), “Design and Development of a Flexible and Wearable T-shirt for Monitoring Breathing Rate”, in Proc. of 3rd International Conference on Computing Methodologies and Communication, pp. 376-379, March 27-29, 2019, Erode.
 7. Samanu Sreelekha (UG-ECE 2016-2020 batch), Dommalapati Navya (UG-ECE 2016-2020 batch), B. Pranamika (UG-ECE 2015-2019 batch), M. Gulam Nabi Alsath (Faculty/ECE), S. Kirubaveni (Faculty/ECE), “Design of Ultra-Wideband Antenna Array for Mobile Terminals”, in Proc. of IEEE 5th International Conference on Science, Technology, Engineering and Mathematics (ICONSTEM 2019), pp. 1-4, March 2019, Jeppiar Engineering College, Chennai.
 8. Yarasi Tusharika (UG-ECE 2016-2020 batch), Samanu Sreelekha (UG-ECE 2016-2020 batch), B. Pranamika (UG-ECE 2015-2019 batch), M. Gulam Nabi Alsath (Faculty/ECE), S. Kirubaveni (Faculty/ECE), M. A. Sarathkumaran (UG-ECE 2012-2016 batch), “Dual-Band Complementary Slot Fed Antenna for RFID Applications,” in Proc. of IEEE 5th International Conference on Science, Technology, Engineering and Mathematics (ICONSTEM 2019), pp. 1-4, March 2019, Jeppiar Engineering College, Chennai.
 9. A. S. Shashank Karrthikeyaa (UG-ECE 2015-2019 batch), R. Priyadarshini (UG-ECE 2015-2019 batch), G. Revathi (UG-ECE 2015-2019 batch), S. Sakthivel Murugan (Faculty/ECE), “Design and implementation of secured cloud based remote home access through an app for smart infrastructure” in Proc. of International Conference on Frontiers in Smart System Technologies, pp.1-11, April 2-3, 2019, Vel Tech Rangarajan Dr Sagunthala R & D Institute of Science and Technology, Chennai.

10. S. Nikitha (UG-ECE 2015-2019 batch), Zohra Noori Mohsina (UG-ECE 2015-2019 batch), V. Sneha (UG-ECE 2015-2019 batch), S. Sakthivel Murugan (Faculty/ECE), "Development of smart electricity energy harvesting system using IoT" in Proc. of International Conference on Frontiers in Smart System Technologies, pp.585-600, April 2-3, 2019, Vel Tech Rangarajan Dr Sagunthala R & D Institute of Science and Technology, Chennai.
11. R. Nithya (PT-RS/ECE), N. Edna Elizabeth (Faculty/ECE), Bhavana Pooja (UG-ECE 2014-2018 batch), Bhrindhaa Devi (UG-ECE 2014-2018 batch), Farzeen Azeema (UG-ECE 2014-2018 batch), "An Implementation of Secure Authentication Scheme in Vanets", in Proc. of International Conference on Communication & Signal Processing, pp. 0263-0267, April 4-6, 2019, Adhiparasakthi Engineering College, Melmaruvathur.

National Conferences:

1. Gali Kavya Shree Sai (UG-ECE 2015-2019 batch), Ganapathi Ramanathan (UG-ECE 2015-2019 batch), Manne Muddu Reshma Priya (UG-ECE 2015-2019 batch), P. Vijayalakshmi (Faculty/ECE), "Speech enabled virtual assistant using Image captioning", in Proc. of 5th National Conference on Information and Communication Technologies, pp. 194-198, April 1-2, 2019, SSN College of Engineering, Chennai.
2. Gollamudi Lakshmi Janaki (UG-ECE 2015-2019 batch), C. Harini (UG-ECE 2015-2019 batch), P. K. Madhumitha (UG-ECE 2015-2019 batch), S. Ramprabhu (Faculty/ECE), "Smart Doorbell System," in Proc. of 5th National Conference on Information and Communication Technologies, pp. 110-111, April 1-2, 2019, SSN College of Engineering, Chennai.
3. M. Gayathri (UG-ECE 2015-2019 batch), P. Nandha Kumar (UG-ECE 2015-2019 batch), K. Pushpalatha (UG-ECE 2015-2019 batch), S. Ramprabhu (Faculty/ECE), "Design and Fabrication of Compact Multiband Microstrip Patch Antenna," in Proc. of 5th National Conference on Information and Communication Technologies, April 1-2, 2019, SSN College of Engineering, Chennai.
4. G. Mugeshnandha (UG-ECE 2015-2019 batch), G. Karthick (UG-ECE 2015-2019 batch), S. Nandakishore (UG-ECE 2015-2019 batch), S. Ramprabhu (Faculty/ECE), "Design and Fabrication of Quad band Frequency Selective Surface for Shielding Application," in Proc. of 5th National Conference on Information and Communication Technologies, April 1-2, 2019, SSN College of Engineering, Chennai.
5. C. Vinoth Kumar (Faculty/ECE), K. P. Gopinath (Faculty/Chemical), C. Akshay Kumar (UG-ECE 2015-2019 batch), A. Alaguraj (UG-ECE 2015-2019 batch), Gunupati Sumadhura (UG-ECE 2015-2019 batch), S. Harini (UG-ECE 2015-2019 batch), "Monitoring and Identification of Region-Growing Microalgae Biomass Quantification using Digital Image Processing", in Proc. of 5th National Conference on Information and Communication Technologies, April 1-2, 2019, SSN College of Engineering, Chennai.

6. Aiswarya Narayan (UG-ECE 2016-2020 batch), J. Akshaya (UG-ECE 2016-2020 batch), B. Harini Gauri (UG-ECE 2016-2020 batch), S. Mahima (UG-ECE 2016-2020 batch), K. Muthumeenakshi (Faculty/ECE), “Design and Development of Hybrid Energy Harvester for Low Power Applications”, in Proc. of 5th National Conference on Information and Communication Technologies, pp. 169-172, April 1-2, 2019, SSN College of Engineering, Chennai.
7. Yarasi Tusharika (UG-ECE 2016-2020 batch), Dommalapati Navya (UG-ECE 2016-2020 batch), E. Velkani (UG-ECE 2014-2018 batch), Rapuru Srinithya (UG-ECE 2014-2018 batch), M. Gulam Nabi Alsath (Faculty/ECE), S. Kirubaveni (Faculty/ECE), “Design and Implementation of Microwave based Gas Sensor,” in Proc. of 5th National Conference on Information and Communication Technologies, pp. 207, April 1-2, 2019, SSN College of Engineering, Chennai.
8. B. Pranamika (UG-ECE 2015-2019 batch), V. Nilavathani (UG-ECE 2015-2019 batch), S. Udayaezhil (UG-ECE 2015-2019 batch), M. Gulam Nabi Alsath (Faculty/ECE), “Design and Implementation of a UWB Reconfigurable Filtering Bow Tie Antenna,” in Proc. of 5th National Conference on Information and Communication Technologies, pp. 208, April 1-2, 2019, SSN College of Engineering, Chennai.
9. S. Radha (Faculty/ECE), N. Bharath Raj (UG-ECE 2015-2019 batch), S. Brathindara (UG-ECE 2015-2019 batch), R. Kashyap (UG-ECE 2015-2019 batch), “Study on the feasibility of harvesting energy from a piezoelectric and triboelectric nanogenerator”, in Proc. of 5th National Conference on Information and Communication Technologies, pp. 182-186, April 1-2, 2019, SSN College of Engineering, Chennai.

SSN COLLEGE OF ENGINEERING, KALAVAKKAM - 603110

Department of Electronics & Communication Engineering

STUDENT PUBLICATIONS

June 2018 to May 2019

M.E. - APPLIED ELECTRONICS

International Journals:

1. R. Kiruthika (RS/ECE), E. Priyadharshini (PG-AE 2016-2018 batch), S. Kirubaveni (Faculty/ECE), S. Radha (Faculty/ECE), "Fabrication and Characterization of ZnO nanostructured thin film piezoelectric sensor for accelerometer application", International Journal of Pure and Applied Mathematics, vol. 118, no. 24, pp. 1-9, June 2018. (Scopus Indexed, SJR: 0.14)
2. V. JoshibhaBency (PG-AE 2017-2019 Batch), C. Annadurai (Faculty/ECE), D. Ramkumar (RS/ECE), R. Rajesh (RS/ECE), "Lightweight Node Authentication and Establishing a Secure AODV Protocol in Mobile Ad hoc Network", International Journal of Innovative Technology and Exploring Engineering (IJITEE), vol. 8 (7), pp. 915-920, May 2019. (Scopus Indexed)

International Conferences:

1. M. Jothi Lakshmi (PG-AE 2017-2019 Batch), R. Jayaparvathy (Faculty/ECE), "SIoT based tourist information assistance", in Proc. of IEEE International Conference on Recent Advances in Energy-efficient Computing and Communication (ICRAECC 2019), 8 March 2019, St. Xavier's Catholic college of Engineering, Nagercoil.
2. V. JoshibhaBency (PG-AE 2017-2019 Batch), C. Annadurai (Faculty/ECE), D. Ramkumar (RS/ECE), R. Rajesh (RS/ECE), "Bio-metric Authentication Consoles in Mobile Ad-hoc Network", in Proc. of IEEE 6th International Conference on Engineering and Applied Sciences, pp. 72-80, March 14-16, 2019, S.R.I College of Engineering and Technology, Vandavasi, Thiruvannamalai.
3. M. Manisha (PG-AE 2017-2019 Batch), A. Jawahar (Faculty/ECE), "Reconfigurable Filter Design for Multiband Noise Cancellation", in Proc. of IEEE International Conference on Communication and Signal Processing (ICCSP'19), pp. 0636-0639, April 4-6, 2019, Aadhiparasakthi College of Engineering, Melmaruvathur.
4. V. Reshma (PG-AE 2017-2019 Batch), S. Joseph Gladwin (Faculty/ECE), C. Thiruvenkatesan (Faculty/ECE), "Pairing-Free CP-ABE based Cryptography combined with Steganography for Multimedia Applications", in Proc. of IEEE International Conference on Communication and Signal Processing (ICCSP'19), pp. 0501-0505, April 4-6, 2019, Aadhiparasakthi College of Engineering, Melmaruvathur.

5. A. Shantha (PG-AE 2017-2019 Batch), J. Renita (RS/ECE), N. Edna Elizabeth (Faculty/ECE), “Analysis and implementation of ECC algorithm in Lightweight Device”, in Proc. of IEEE International conference on communication and signal processing (ICCSP’19), pp. 0305-0309, April 4-6, 2019, Aadhiparasakthi College of Engineering, Melmaruvathur.
6. S. Suryakala (PG-AE 2017-2019 Batch), K. Muthumeenakshi (Faculty/ECE), S. Joseph Gladwin (Faculty/ECE), “Vision based Vehicle/Pedestrian Identification in Traffic Surveillance System”, in Proc. of IEEE International conference on communication and signal processing (ICCSP’19), pp. 0506-0510, April 4-6, 2019, Aadhiparasakthi College of Engineering, Melmaruvathur.

SSN COLLEGE OF ENGINEERING, KALAVAKKAM - 603110

Department of Electronics & Communication Engineering

STUDENT PUBLICATIONS

June 2018 to May 2019

M.E. - COMMUNICATION SYSTEMS

International Journals:

1. S. Venakata Suriyan (PG-CS 2016-2018 batch), K. J. Jegadish Kumar (Faculty/ECE), “Design of slotted Pentagonal Structure patch antenna for RF Energy Harvesting in Mobile communication band”, Smys S., Bestak R., Chen JZ., Kotuliak I. (eds) International Conference on Computer Networks and Communication Technologies, Springer’s Lecture notes on Data engineering and Communications technologies, vol.15, pp. 527-535, September 2018.
2. G. Abirami (PG-CS 2016-2018 batch), S. Karthie (Faculty/ECE), “Design of Fractal-Based Dual-Mode Microstrip Bandpass Filter for Wireless Communication Systems”, Smys S., Bestak R., Chen JZ., Kotuliak I. (eds) International Conference on Computer Networks and Communication Technologies, Springer’s Lecture notes on Data engineering and Communications Technologies, vol. 15, pp. 537-544, September 2018.
3. Melvin C. Jose (RS/ECE), R. Chithra Devi, B. S. Sreeja (Faculty/ECE), S. Meraline (PG-CS 2014-2016 batch), S. Radha (Faculty/ECE), “A novel wideband pattern reconfigurable antenna using switchable parasitic stubs”, Microwave and Optical Technology Letters, vol. 61 (4), pp.1090-1096, April 2019. DOI: <https://doi.org/10.1002/mop.31698> (Thomson Reuters, IF: 0.948).
4. B. Sakthi Abirami (RS/ECE), S. Esther Florence (Faculty/ECE), A. Harshavardhini (PG-CS 2016-2018 batch), “A Compact Conformal Windshield Antenna for Location Tracking on Vehicular Platforms”, IEEE Transactions on Vehicular Technology, vol. 68 (4), pp. 4047-4050, April 2019.
5. S. Rajkumar (PT-RS/ECE), A. Anto Amala (PG-CS 2017-2019 batch), K. T. Selvan (Faculty/ECE), “Isolation Improvement of UWB MIMO Antenna Utilizing Molecule Fractal Structure”, IET Electronic Letters, vol. 55 (10), pp. 576-579, May 2019 (Thomson Reuters, IF: 1.232).

International Conferences:

1. B. Arun Kumar (PG-CS 2017-2019 batch), S. Sakthivel Murugan (Faculty/ECE), “Energy harvesting system using seawater activated battery for underwater applications”, in Proc. of India’s 2nd Tech Surge, Technology and Innovation for

Sustainable Fishing (TISF) 2018, 10 August 2018, Marine Technology Society - India Section, Chennai.

2. Haarika Musunuru (PG-CS 2017-2019 batch), N. Venkateswaran, "Optimization and Simulation of Band Pass Filter at 28GHz for Millimeter Wave Communication", in Proc. of International Conference on Mathematical Computer Engineering (ICMCE-2018), November 23-24, 2018, Chennai.
3. S. Rajkumar (PT-RS/ECE), A. Anto Amala (PG-CS 2017-2019 batch), K. T. Selvan (Faculty/ECE), "A Compact Hybrid Sierpinski Koch Fractal UWB MIMO Antenna with Pattern Diversity", in Proc. of IEEE-INAE Workshop on Electromagnetics, December 6-8, 2018, Trivandrum, India.
4. R. Deepika Devi (PG-CS 2017-2019 batch), S. Aasha Nandhini (SRF/ECE), R. Hemalatha (Faculty/ECE), S. Radha (Faculty/ECE), "IoT Enabled Efficient Detection and Classification of Plant Diseases for Agricultural Applications", in Proc. of International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET 2019), March 21-23, 2019, SSN College of Engineering, Chennai.
5. R. Jayapriya (PG-CS 2017-2019 batch), J. Johanan Joy Singh (RS/IT), P. Vijayalakshmi (Faculty/ECE), "Development of MEMS sensor based double-handed gesture-to-speech conversion system", in Proc. of IEEE International conference on Vision towards Emerging Trends in Communication and Networking (VITECON), March 30-31, 2019, VIT Vellore.
6. N. Keerthika (PG-CS 2017-2019 batch), C. Vinoth Kumar (Faculty/ECE), S. Joseph Gladwin (Faculty/ECE), "Hybrid Prediction Based Reversible Watermarking For Medical Images", in Proc. of IEEE International Conference on Vision Towards Emerging Trends in Communication and Networking, (VITECON), March 30-31, 2019, VIT Vellore.
7. S. Sukanya (PG-CS 2017-2019 batch), S. Joseph Gladwin (Faculty/ECE), C. Vinoth Kumar (Faculty/ECE), "A Tool for Extracting Text from Scanned Documents and Convert it into Editable format", in Proc. of IEEE International Conference on Vision Towards Emerging Trends in Communication and Networking, (VITECON), March 30-31, 2019, VIT Vellore.
8. E. Nandhini (PG-CS 2017-2019 batch), B. S. Sreeja (Faculty/ECE), Melvin C. Jose (RS/ECE), Pratap Kumar, S. Radha (Faculty/ECE), "Implementation of aperture coupled stacked layer microstrip patch antennas for 5G wireless communication systems", in Proc. of IEEE International Conference on Vision Towards Emerging Trends in Communication and Networking, (VITECON), pp. 1-5, March 30-31, 2019, VIT Vellore.
9. U. Indumathi (PG-CS 2017-2019 batch), S. Ramprabhu (Faculty/ECE), "Optimized FSS with bandstop response for satellite applications", in Proc. of IEEE 5th International Conference on Science, Technology, Engineering and Mathematics (ICONSTEM 2019), pp. 1-4, March 2019, Jeppiar Engineering College, Chennai.
10. A. Deepa Theres Arockiam (PG-CS 2017-2019 batch), M. Gulam Nabi Alsath (Faculty/ECE), S. Vidhyashree (JRF/ECE), B. Partibane (Faculty/ECE), "Studies on the Reflection Properties of Unit Cell Elements for Frequency Reconfigurable

Reflectarray”, in Proc. of IEEE 5th International Conference on Science, Technology, Engineering and Mathematics (ICONSTEM 2019), pp. 1-4, March 2019, Jeppiar Engineering College, Chennai.

11. S. Priyadharshini (PG-CS 2017-2019 batch), C. Mohan (RS/ECE), S. Esther Florence (Faculty/ECE), “Design of Compact-Circular Monopole UWB Antenna with Dual Notch Bands”, in Proc. of 1st International Conference on Innovations in Information and Communication Technology (ICIICT), April 25-26, 2019, St. Peter's College of Engineering and Technology, Avadi.
12. R. Indhu (RS/ECE), A. Jenifer Sofia (PG-CS 2017-2019 batch), S. Radha (Faculty/ECE), E.Manikandan (RS/ECE), “Development of Polymeric Microfluidic Chip for Particle Separation using Laser Micromachining”, in Proc. of 8th International Congress on Laser Advanced Materials Processing (LAMP 2019), May 21-24, 2019, Japan.

National Conferences:

1. S. Priyadharshini (PG-CS 2017-2019 batch), C. Mohan (RS/ECE), S. Esther Florence (Faculty/ECE), “Compact Design of UWB Truncated Circular Monopole Antenna”, in Proc. of 5th National Conference on Information and Communication Technologies, pp. 89-91, April 1-2, 2019, SSN College of Engineering, Chennai.
2. M. Maheswari M (PG-CS 2017-2019 batch), V. Aruna (PT-RS/ECE), M. Gulam Nabi Alsath (Faculty/ECE), “Ultra Wide Band (UWB) Quasi Yagi antenna with dual step feeding for WBAN Application” in Proc. of 5th National Conference on Information and Communication Technologies, pp. , April 1-2, 2019, SSN College of Engineering, Chennai.

SSN COLLEGE OF ENGINEERING, KALAVAKKAM - 603110

Department of Electronics & Communication Engineering

STUDENT PUBLICATIONS

June 2018 to May 2019

M.E. - VLSI DESIGN

International Journals:

1. R. Indhu (RS/ECE), J. Anni Steffi Mercy (PG-VLSI 2015-2017 batch), K. M. Shreemathi (PG-VLSI 2015-2017 batch), S. Radha (Faculty/ECE), S. Kirubaveni (Faculty/ECE), B. S. Sreeja (Faculty/ECE), "Design of a filter using array of pillars for particle separation", Material Today Proceeding, vol. 5, no. 4, pp. 10889-10894, June 2018. (Scopus indexed, SNIP: 0.837)

International Conferences:

1. K. Yashvardhan (PG-VLSI 2017-2019 batch), M. Anbuselvi (Faculty/ECE), P. Saravanan (Faculty/EEE), "Design of Wireless Charging system for Electric Vehicles", in Proc. of International Conference on Innovative Engineering Initiatives (ICIEI 2019), March 13-14, 2019, SRM TRP Engineering College.
2. K. Sudarshan (PG-VLSI 2017-2019 batch), V. Vaithianathan (Faculty/ECE), "Low Noise, High Gain and Low Power Bulk Injection Mixer for MB-OFDM based UWB", in Proc. of International Conference on Communication & Signal Processing, pp. 0407-0410, April 4-6, 2019, Adhiparasakthi Engineering College, Melmaruvathur.

National Conferences:

1. Nadeen Naushad (PG-VLSI 2017-2019 batch), K. K. Nagarajan (Faculty/ECE), "Software and Hardware based Codesign of Quantum Algorithms", in Proc. of 5th National Conference on Information and Communication Technologies, pp. 177-181, April 1-2, 2019, SSN College of Engineering, Chennai.

SSN COLLEGE OF ENGINEERING, KALAVAKKAM - 603110

Department of Electronics & Communication Engineering

STUDENT PUBLICATIONS

June 2018 to May 2019

RESEARCH SCHOLARS (FULL-TIME)

International Journals:

1. J. Florence Gnana Poovathy (RS/ECE), S. Radha (Faculty/ECE), "Hardware Implementation of Enhancement Embedded Reduced Runtime Recovery Algorithm for Compressively Sensed Images", Springer's Wireless Personal Communications, pp. 1-18, June 2018 (Published online). DOI: 10.1007/s11277-018-5836-9 (Thomson Reuters, IF: 1.2)
2. K. Ashwini (RS/ECE), R. Amutha (Faculty/ECE), "Fast and secured cloud assisted recovery scheme for compressively sensed signals using new chaotic system", Springer's Multimedia Tools and Applications, pp. 1-26, June 2018 (Published online). DOI: 10.1007/s11042-018-6112-4 (Thomson Reuters, IF: 1.530)
3. R. Jansi (RS/ECE), R. Amutha (Faculty/ECE), "A novel chaotic map based compressive classification scheme for human activity recognition using a tri-axial accelerometer", Springer's Multimedia Tools and Applications, pp.1-20, June 2018 (Published online). DOI: 10.1007/s11042-018-6117-z (Thomson Reuters, IF: 1.530)
4. R. Indhu (RS/ECE), J. Anni Steffi Mercy (PG-VLSI 2015-2017 batch), K. M. Shreemathi (PG-VLSI 2015-2017 batch), S. Radha (Faculty/ECE), S. Kirubaveni (Faculty/ECE), B. S. Sreeja (Faculty/ECE), "Design of a filter using array of pillars for particle separation", Material Today Proceeding, vol. 5, no. 4, pp. 10889-10894, June 2018. (Scopus indexed, SNIP: 0.837)
5. R. Kiruthika (RS/ECE), E. Priyadharshini (PG-AE 2016-2018 batch), S. Kirubaveni (Faculty/ECE), S. Radha (Faculty/ECE), "Fabrication and Characterization of ZnO nanostructured thin film piezoelectric sensor for accelerometer application", International Journal of Pure and Applied Mathematics, vol. 118, no. 24, pp. 1-9, June 2018. (Scopus Indexed, SJR: 0.14)
6. M. Sudha (RS/ECE), S. Kirubaveni (Faculty/ECE), S. Radha (Faculty/ECE), "Fabrication of Nickel doped ZnO/PEDOT: PSS Schottky diode based Ultraviolet Photodetector", International Journal of Pure and Applied Mathematics, vol. 118, no. 24, pp. 1-8, June 2018. (Scopus Indexed, SJR: 0.14)
7. R. Indhu (RS/ECE), S. Radha (Faculty/ECE), E. Manikandan (RS/ECE), B. S. Sreeja (Faculty/ECE), Ravi Nathuram Bathe (ARCI/Hyderabad), "Micromachining of biocompatible polymer substrate for cancer cell separation applications", Microsystem Technologies, pp. 1-4, July 2018 (Published Online). DOI: 10.1007/s00542-018-4073-

- 1 (Thomson Reuters, IF: 1.581)
8. E. Manikandan (RS/ECE), B. S. Sreeja (Faculty/ECE), S. Radha (Faculty/ECE), "Low Cost Flexible Multiband Terahertz Planar Antennas for Bolometer Applications", *Journal of Active and Passive Electronic Devices*, vol. 13 (2/3), pp. 87-95, September 2018. (Thomson Reuters, IF: 0.534)
9. R. Jansi (RS/ECE), R. Amutha (Faculty/ECE), "Sparse representation based classification scheme for human activity recognition using smartphones", *Springer's Multimedia Tools and Applications*, pp.1-19, September 2018 (Published online). DOI: 10.1007/s11042-018-6662-5 (Thomson Reuters, IF: 1.530)
10. S. Shoba (RS/ECE), R. Rajavel (Faculty/ECE), "Performance improvement of monaural speech separation system using image analysis techniques", *IET Signal Processing*, vol. 12 (7), pp. 896-906, September 2018. (Thomson Reuters, IF: 1.25)
11. P. Nirmala (RS/ECE), R. Kishore (Faculty/ECE), "Multi-focus image fusion using self resemblance measure", *Computers and Electrical Engineering*, vol. 71, pp. 13-27, October 2018. (Thomson Reuters, IF: 1.747)
12. E. Manikandan (RS/ECE), B. S. Sreeja (Faculty/ECE), S. Radha (Faculty/ECE), G. Padmalaya (RS/ECE), "Numerical Studies on Effect of Superconducting thin films on Radiation Performance of Multiband Mid-Infrared Nano Patch Antenna", *Journal of Electronic Materials*, vol. 47 (10), pp. 6272-6281, October 2018. (Thomson Reuters, IF: 1.566)
13. E. Manikandan (RS/ECE), B. S. Sreeja (Faculty/ECE), S. Radha (Faculty/ECE), Ravi Nathuram Bathe (ARCI/Hyderabad), "Direct Laser Fabrication of Five-Band Symmetric Terahertz Metamaterial with Fano Resonance", *Materials letters*, vol. 229, pp. 320-323, October 2018. (Thomson Reuters, IF: 2.687)
14. G. Padmalaya (RS/ECE), B. S. Sreeja (Faculty/ECE), Dinesh Kumar, S. Radha (Faculty/ECE), V. Poornima, M. Arivanandan, Sujana Shrestha, T. S. Uma, "A Facile Synthesis of Cellulose Acetate Functionalized Zinc Oxide Nanocomposite for Electrochemical Sensing of Cadmium ions", *Journal of Inorganic and Organometallic Polymers and Materials*, pp. 1-11, October 2018 (Published Online). DOI: <https://link.springer.com/article/10.1007/s10904-018-0989-2> (Thomson Reuters, IF: 1.754)
15. A. Elakkiya (RS/ECE), S. Radha (Faculty/ECE), B. S. Sreeja (Faculty/ECE), E. Manikandan (RS/ECE), "Optically Transparent efficient Terahertz Patch antenna for space applications", *Journal of Optoelectronics and Advanced Materials*, vol. 20, no. 9-10, pp. 474-478, October 2018. (Thomson Reuters, IF: 0.390)
16. E. Manikandan (RS/ECE), B. S. Sreeja (Faculty/ECE), S. Radha (Faculty/ECE), Muthukannan Duraiselvam (NIT-T), Abhishek Gupta (TIFR/Mumbai), Shriganesh Prabhu (TIFR/Mumbai), "Microfabrication of Terahertz Frequency Selective Surface by Short and Ultrashort Laser Ablation", *Optical Engineering - SPIE*, vol. 58, issue 1, pp. 011007:1-011007:6, October 2018. (Thomson Reuters, IF: 1.042)
17. R. Rajesh (RS/ECE), C. Annadurai (Faculty/ECE), K. Nirmaladevi (Faculty/KEC), "Low power device coordination in internet of things environment using analytic hierarchy process model", *Concurrency and Computation: Practice and Experience*,

Wiley, October 2018 (Published Online). DOI: <https://doi.org/10.1002/cpe.5022> (Thomson Reuters, IF: 1.114)

18. S. Sayi Soundariya (RS/ECE), S. Ramprabhu (Faculty/ECE), K. J. Jegadish Kumar (Faculty/ECE), "A Novel Miniaturized Polarization Independent Band-Stop Frequency Selective Surface", IEEE Transactions on Electromagnetic Compatibility, October 2018 (Published Online). DOI: 10.1109/TEMPC.2018.2869664 (Thomson Reuters, IF: 1.52)
19. C. Ganesh Kumar (RS/ECE), V. Premamand Chandramani (Faculty/ECE), "Demand response management system with discrete time window using supervised learning algorithm", Elsevier's Cognitive Systems Research, November 2018 (Published Online), vol. 57, pp. 131-138, October 2019. (Thomson Reuters, IF: 1.129)
20. R. Indhu (RS/ECE), S. Radha (Faculty/ECE), E. Manikandan (RS/ECE), B. S. Sreeja (Faculty/ECE), B. Ravi (ARCI/Hyderabad), "Fabrication of silicon microstructure for cell separation using ultrashort laser ablation", Microsystem Technologies, pp.1-6, November 2018 (Published Online). DOI: 10.1007/s00542-018-4233-3 (Thomson Reuters, IF: 1.581)
21. S. Deepa Nivethika (RS/ECE), B. S. Sreeja (Faculty/ECE), E. Manikandan (RS/ECE), S. Radha (Faculty/ECE), M. Senthil Pandian (SSNRC), "Lycra fabric as an effective stretchable substrate for a compact highly efficient reversibly deformable broadband patch antenna", Journal of Optoelectronics and Advanced Materials, vol. 20, no. 11-12, pp. 634-641, November-December 2018. (Thomson Reuters, IF: 0.39)
22. P. Nirmala (RS/ECE), R. Kishore (Faculty/ECE), "Swarm intelligence based image fusion for noisy images using consecutive pixel intensity", Springer's Multimedia Tools and Applications, vol. 77 (24), pp. 32133-32151, December 2018. (Thomson Reuters, IF: 1.530)
23. R. Indhu (RS/ECE), S. Radha (Faculty/ECE), V. Sathiesh Kumar (MIT/Chennai), E. Manikandan (RS/ECE), B. S. Sreeja (Faculty/ECE), J. Sumathi (MIT/Chennai), "Study on Cholesterol Contents Using Laser Induced Breakdown Spectroscopy", Sensor Letters, vol. 16, no. 12, pp. 951-954, December 2018. (Scopus Indexed, SJR: 0.17)
24. Melvin C. Jose (RS/ECE), R. Chithra Devi, B. S. Sreeja (Faculty/ECE), S. Meraline (PG-CS 2014-2016 batch), S. Radha (Faculty/ECE), "A novel wideband pattern reconfigurable antenna using switchable parasitic stubs", Microwave and Optical Technology Letters, pp.1-7, December 2018 (Published Online). DOI: <https://doi.org/10.1002/mop.31698> (Thomson Reuters, IF: 0.948)
25. S. Sayi Soundariya (RS/ECE), S. Ramprabhu (Faculty/ECE), "A Single-Layer UWB Frequency-Selective Surface With Band-Stop Response", IEEE Transactions on Electromagnetic Compatibility, December 2018 (Published Online). DOI: 10.1109/TEMPC.2018.2886285 (Thomson Reuters, IF: 1.52)
26. S. Shoba (RS/ECE), R. Rajavel (Faculty/ECE), "Improving Speech Intelligibility in Monaural Segregation System by Fusing Voiced and Unvoiced Speech Segments," Circuits, Systems and Signal Processing, December 2018 (Published online). DOI: <https://doi.org/10.1007/s00034-018-1005-3> (Thomson Reuters, IF: 1.998)
27. E. Manikandan (RS/ECE), B. S. Sreeja (Faculty/ECE), S. Radha (Faculty/ECE), Ravi Nathuram Bathe (ARCI/Hyderabad), Ravikumar Jain (TIFR/Mumbai), Shriganesh

- Prabhu (TIFR/Mumbai), "A Rapid Fabrication of Novel Dual Band Terahertz Metamaterial by Femtosecond Laser Ablation", *International Journal of Infrared, Millimeter, and Terahertz Waves*, October 2018 (Published Online), vol. 40, issue. 1, pp. 38-47 January 2019. (Thomson Reuters, IF:1.677)
28. K. Mrinalini (RS/ECE), T. Nagarajan (Faculty/IT), P. Vijayalakshmi (Faculty/ECE), "Pause-Based Phrase Extraction and Effective OOV Handling for Low-Resource Machine Translation Systems", *ACM Transactions on Asian and Low Resource Language Information Processing*, vol. 18, no. 2, article 12, pp. 12:1-12:22, December 2018. (Thomson Reuters, IF: 0.339)
 29. A. Sheeba Angel (RS/ECE), R. Jayaparvathy (Faculty/ECE), "Performance modeling of an intelligent emergency evacuation system in buildings on accidental fire occurrence", *Elsevier's Safety Science*, November 2018 (Published online), vol. 112, pp. 196-205, February 2019. (Thomson Reuters, IF: 2.835)
 30. T. A. Mariya Celin (RS/ECE), G. Anushiya Rachel (RS/IT), T. Nagarajan (Faculty/IT), P. Vijayalakshmi (Faculty/ECE), "A weighted speaker-specific confusion transducer-based augmentative and alternative speech communication aid for dysarthric speakers", *IEEE Transactions on Neural systems and Rehabilitation Engineering*, December 2018 (Published Online), vol. 27, no. 2, pp. 187-197, February 2019. (Thomson Reuters, IF: 3.972)
 31. E. Manikandan (RS/ECE), B. S. Sreeja (Faculty/ECE), S. Radha (Faculty/ECE), Abhishek Gupta (TIFR/Mumbai), Shriganesh Prabhu (TIFR/Mumbai), "Microfabrication of Low Cost Frequency Selective Surface for Terahertz Wave by Laser Ablation", *Journal of Electronic Materials*, February 2019 (Published Online). DOI: <https://doi.org/10.1007/s11664-019-07008-w> (Thomson Reuters, IF: 1.566)
 32. R. Ponuma (RS/ECE), R. Amutha (Faculty/ECE), "Image encryption using sparse coding and compressive sensing", *Multidimensional Systems and Signal Processing*, pp. 1-15, February 2019 (Published Online). DOI: 10.1007/s11045-019-00634-x (Thomson Reuters IF: 2.088)
 33. V. Lingasamy (RS/ECE), M. Gulam Nabi Alsath (Faculty/ECE), K. T. Selvan (Faculty/ECE), Rajeev Jyoti (Scientist/ISRO), "A wideband, single layer reflectarray antenna with cross loop and square ring slot loaded patch elements," *International Journal of Microwave and Wireless Technologies*, March 2019 (Published Online). DOI: 10.1017/S1759078719000187 (Thomson Reuters, IF: 0.745)
 34. P. Devisowjanya (RS/ECE), M. Gulam Nabi Alsath (Faculty/ECE), S. Kirubaveni (Faculty/ECE), R. Govindarajan (Faculty/SSNRC), N. Santhosh (RS/SSNRC), "Design and Experimental Evaluation of a Proximity Coupled Transparent Patch Antenna for WLAN", *IETE Journal of Research*, March 2019 (Published Online). DOI: 10.1080/03772063.2019.1588174 (Thomson Reuters, IF: 0.829)
 35. R. Rajesh (RS/ECE), C. Annadurai (Faculty/ECE), D. Ramkumar (RS/ECE), I. Nelson (Faculty/ECE), I. Jayakaran Amalraj (Faculty/Maths), "Low Power Device Synchronization Protocol for IPv6 over Low Power Wireless Personal Area Networks (6LoWPAN) in Internet of Things (IoT)," *Springer's Lecture notes on Emerging Trends in Computing and Expert Technology*, pp. 703-713, March 2019.
 36. R. Indhu (RS/ECE), S. Radha (Faculty/ECE), E. Manikandan (RS/ECE), B. S. Sreeja

- (Faculty/ECE), Ravi Nathuram Bathe (ARCI/Hyderabad), "Femtosecond laser machined miniaturized micro device for serum separation in bio-sensing applications", *Journal of Optoelectronics and Advanced Materials*, vol. 21, no. 3-4, pp. 238 - 243, March-April 2019. (Thomson Reuters, IF:0.39)
37. S. Sasi Princy (RS/ECE), E. Manikandan (RS/ECE), B. S. Sreeja (Faculty/ECE), S. Radha(Faculty/ECE), "Polarization dependent five-band Terahertz Metamaterial using two resonators", *Microwave and Optical Technology Letters*, vol. 61 (4), pp. 1030-1033, April 2019. (Thomson Reuters, IF: 0.948)
 38. R. Ponuma (RS/ECE), R. Amutha (Faculty/ECE), "Encryption of image data using compressive sensing and chaotic system", *Multimedia Tools and Applications*, vol. 78, pp. 11857-11881, May 2019. (Thomson Reuters, IF: 1.530)
 39. S. Sasi Princy (RS/ECE), B. S. Sreeja (Faculty/ECE), E. Manikandan (RS/ECE), S. Radha (Faculty/ECE), "Design of Polarisation-dependent multiband terahertz frequency-selective surface using two resonators", *Pramana-Journal of Physics*, 04 April, 2019 (Published Online). DOI: <https://doi.org/10.1007/s12043-019-1757-8> (Thomson Reuters, IF: 0.699)
 40. P. D. Selvam (RS/ECE), K. S. Vishvakshan (Faculty/ECE), "Antenna Selection and Power Allocation in Massive MIMO", *Radioengineering*, vol. 28 (1), pp. 340-346, April 2019. (Thomson Reuters IF: 1.048)
 41. B. Sakthi Abirami (RS/ECE), S. Esther Florence (Faculty/ECE), A. Harshavardhini (PG-CS 2016-2018 batch), "A Compact Conformal Windshield Antenna for Location Tracking on Vehicular Platforms", *IEEE Transactions on Vehicular Technology*, vol. 68 (4), April 2019. (Thomson Reuters, IF: 5.339)
 42. S. Sasi Princy (RS/ECE), B. S. Sreeja (Faculty/ECE), E. Manikandan (RS/ECE), S. Radha (Faculty/ECE), Ravi Nathuram Bathe (ARCI/Hyderabad), Ravikumar Jain (TIFR/Mumbai), S. S. Prabhu (TIFR/Mumbai), "An Ultrafast laser micromachined broadband terahertz frequency selective surface", *Bulletin of Material Science*, May 2019 (Published Online). DOI: <https://doi.org/10.1007/s12034-019-1879-0> (Thomson Reuters, IF: 0.925)
 43. R. Ponuma (RS/ECE), R. Amutha (Faculty/ECE), S. Aparna (UG-ECE 2014-2018 batch), Gayatri Gopal (UG-ECE 2014-2018 batch), "Visually meaningful image encryption using data hiding and chaotic compressive sensing", *Multimedia Tools and Applications*, pp. 1-23, May 2019 (Published Online). DOI: [10.1007/s11042-019-07808-6](https://doi.org/10.1007/s11042-019-07808-6) (Thomson Reuters IF: 1.530)
 44. V. Lingasamy (RS/ECE), M. Gulam Nabi Alsath (Faculty/ECE), K. T. Selvan (Faculty/ECE), "Design and evaluation of a wideband reflectarray antenna using cross dipole with double- ring elements," *International Journal of RF and Microwave Computer-Aided Engineering*, May 2019 (Published Online). DOI: [10.1002/mmce.21865](https://doi.org/10.1002/mmce.21865) (Thomson Reuters, IF: 1.306)
 45. V. JoshibhaBency (PG-AE 2017-2019 Batch), C. Annadurai (Faculty/ECE), D. Ramkumar (RS/ECE), R. Rajesh (RS/ECE), "Lightweight Node Authentication and Establishing a Secure AODV Protocol in Mobile Ad hoc Network", *International Journal of Innovative Technology and Exploring Engineering (IJITEE)*, vol. 8 (7), pp. 915-920, May 2019. (Scopus Indexed)

International Conferences:

1. K. A. Karthigeyan (RS/ECE), Premanand V. Chandramani (Faculty/ECE), “Study of VCO delay cell topologies in a 3-stage DR-VCO for radiation hardening”, in Proc. of Conference on Radiation Effects on Components and Systems (RADECS), September 16-21, 2018, Svenska Massan Congress Centre, Gothenburg, Sweden.
2. S. Sasi Princy (RS/ECE), E. Manikandan (RS/ECE), B. S. Sreeja (Faculty/ECE), S. Radha (Faculty/ECE), “Design of Multi-band Terahertz Metamaterial”, in Proc. of Optical Society of India - International Symposium on Optics, September 20-22, 2018, IIT, Kanpur.
3. M. Kavitha (RS/ECE), N. Venkateswaran (Faculty/ECE), “Triple-band Ultra-thin Wide-angle Polarization independent Metamaterial Absorber”, in Proc. of International Symposium on Antennas and Propagation, December 3-5, 2018, CUSAT Cochin, India.
4. J. Renita (RS/ECE), N. Edna Elizabeth (Faculty/ECE), Niveditha Shankar (UG-ECE 2014-2018 batch), R. Shyam Sundar (UG-ECE 2014-2018 batch), K. Sruthi (UG-ECE 2014-2018 batch), “Comparison of Public Key Algorithms for Lightweight and Low Cost System”, in Proc. of 10th International Conference on Advanced Computing (ICoAC 2018), pp. 224-228, December 12-15, 2018, MIT, Chennai.
5. R. Indhu (RS/ECE), S. Radha (Faculty/ECE), E. Manikandan (RS/ECE), B. S. Sreeja (Faculty/ECE), “Fabrication of Microfluidic device for cell separation using laser ablation”, in Proc. of Institute of Physics Singapore Meeting 2019, March 13-15, 2019, Singapore.
6. V. JoshibhaBency (PG-AE 2017-2019 Batch), C. Annadurai (Faculty/ECE), D. Ramkumar (RS/ECE), R. Rajesh (RS/ECE), “Bio-metric Authentication Consoles in Mobile Ad-hoc Network”, in Proc. of IEEE 6th International Conference on Engineering and Applied Sciences, pp. 72-80, March 14-16, 2019, S.R.I College of Engineering and Technology, Vandavasi, Thiruvannamalai.
7. G. Harine (UG-ECE 2016-2020 batch), B. Sakthi Abirami (RS/ECE), B. Harini (UG-ECE 2016-2020 batch), S. Esther Florence (Faculty/ECE), S. Indulakshmi (UG-ECE 2014-2018 batch), “Design and Analysis of Novel EBG/AMC Unit cell”, in Proc. of 5th International Conference on Advanced Computing and Communication Systems, pp. 684-688, 16 March 2019, Sri Eshwar College of Engineering, Coimbatore. (**Best Paper Award**)
8. B. Harini (UG-ECE 2016-2020 batch), M. S. Vignesh(UG-IT 2015-2019 batch), S. Esther Florence (Faculty/ECE), A. Abhirami (RS/ECE), Abanah (RS/ECE), “Design and Development of a Flexible and Wearable T-shirt for Monitoring Breathing Rate”, in Proc. of 3rd International Conference on Computing Methodologies and Communication, pp. 376-379, March 27-29, 2019, Erode.
9. A. Shantha (PG-AE 2017-2019 Batch), J. Renita (RS/ECE), N. Edna Elizabeth (Faculty/ECE), “Analysis and implementation of ECC algorithm in Lightweight Device”, in Proc. of IEEE International conference on communication and signal processing (ICCSP'19), pp. 0305-0309, April 4-6, 2019, Aadhiparasakthi College of Engineering, Melmaruvathur.
10. S. Priyadharshini (PG-CS 2017-2019 batch), C. Mohan (RS/ECE), S. Esther Florence

(Faculty/ECE), “Design of Compact-Circular Monopole UWB Antenna with Dual Notch Bands”, in Proc. of 1st International Conference on Innovations in Information and Communication Technology (ICIICT), April 25-26, 2019, St. Peter's College of Engineering and Technology, Avadi.

11. R. Indhu (RS/ECE), A. Jenifer Sofia (PG-CS 2017-2019 batch), S. Radha (Faculty/ECE), E.Manikandan (RS/ECE), “Development of Polymeric Microfluidic Chip for Particle Separation using Laser Micromachining”, in Proc. of 8th International Congress on Laser Advanced Materials Processing (LAMP 2019), May 21-24, 2019, Japan.
12. M. Dhana Lakshmi (JRF/ECE), M.Vimal Raj (RS/ECE), S. Sakthivel Murugan (Faculty/ECE), “Feature Matching and Assessment of Similarity rate on geometrically Distorted Side Scan Sonar Images”, in Proc. of International Conference on Microwave Integrated Circuits, Photonics and Wireless networks, May 22-24, 2019, NIT, Trichy.

National Conferences:

1. P. Devi Sowjanya (RS/ECE), M. Gulam Nabi Alsath (Faculty/ECE), S. Kirubaveni (Faculty/ECE), R. Govindaraj, (RS/Physics), N. Santhosh, (SSNRC), “Proximity fed transparent antenna for WLAN applications”, in Proc. of 5th National Conference on Information and Communication Technologies (NCICT-2019), pp. 70-72, April 1-2, 2019, SSN College of Engineering, Chennai.
2. S. Priyadharshini (PG-CS 2017-2019 batch), C. Mohan (RS/ECE), S. Esther Florence (Faculty/ECE), “Compact Design of UWB Truncated Circular Monopole Antenna”, in Proc. of 5th National Conference on Information and Communication Technologies, pp. 89-91, April 1-2, 2019, SSN College of Engineering, Chennai.