

PROGRESS REPORT OF RESEARCH CENTER FOR CONTINUATION OF RECOGNITION AY 2020-21

Name of the College: ATRIA INSTITUTE OF TECHNOLOGY, BENGALURU .



**VISVESVARAYA TECHNOLOGICAL UNIVERSITY,
"Jnana Sangama"
Belagavi – 590018, Karnataka State.**



Name of the Recognized Research Center	Dept. of ECE
Year of Est. as Research Center	2014
Number of Eligible Supervisors	04
Number of Candidates Registered for Ph.D.	05
Number of Candidates Registered for M.Sc. (Engg.) by Research	(M.Tech., 2 No.'s)
Number of faculty with Ph. D.	07
Number of Professors in the department	03
Number of Assoc. Prof. in the department	05
Number of Asst. Prof. in the department	26

Details of Research Supervisor

Sl. No	Name of the Research Supervisor	Name of the University from which Ph. D is awarded	Year of Award	Specialization	Department	No. of Candidates Registered for		Status of Completion		
						Ph.D	M.Sc. (Engg.)	No. of Candidates completed Course Work	No. of Candidates completed Comprehensive Viva-Voce	No. of Candidates completed Submitted Final Thesis
1	Dr. SUJATHA CYRIL	ANNA UNIVERSITY, CHENNAI	JAN 2015	ANALOG VLSI DESIGN	ECE	04	NIL	NIL	NIL	NIL
2	Dr. K. V. NARAYANASWAMY	VTU	2008	Wireless and Mobile Adhoc networks	EEE	01	NIL	01	NIL	NIL
3	Dr. Arun Balodi	IIT Roorkee	2018	Image Processing	EE	Nil	NIL	NIL	NIL	NIL
4	Dr. Ambar Bajpai	Chulalongkorn University, Thailand	2016	Wireless Communication	EE	Nil	NIL	NIL	NIL	NIL
5	Dr. Prasuna VNP	Anna University, Chennai	2018	Networks, WSN, and IoT	ICE	Nil	NIL	NIL	NIL	NIL

Details of Research Scholars

Sl. No	Name of the Research Scholar	Dept.	Registered for			Status of Completion		
			Year of Registration	Ph.D.	M.Sc. (Engg.)	Course Work [Y/N]	Comprehensive Viva-Voce [Y/N]	Submitted Final Thesis [Y/N]
1	VASANTHI S.	ECE	DEC 2014	√	NA	Y	Y	NO
2	VIBHA RAJNAG	ECE	2016-17	√	NA	Y	NO	NO
3	DIVYA N.	ECE	2018-19	√	NA	Y	NO	NO
4	ASHA RANI A R	ECE	2019-20	√	NA	N	NO	NO
5	BHUBANESHWARI N.	ECE	2019-20	√	NA	N	NO	NO

The Candidates registered for Ph.D / M.Sc. Engg. By Research in Other Universities (if any)

Sl. No	Name of the Research Supervisor	Name of the Research Scholar registered for Research program in other University	Name of the University	Year of Registration	Status of Completion
1	Dr. H C Nagaraj, NMIT, Bengaluru	Prof. SUNDARI T	MYSORE UNIVERSITY	DEC 2015	Course work completed
2	Dr. A Srinivasa Murthy UVCE, Bengaluru	Prof. RAMESH N.	BANGALORE UNIVERSITY	JAN 2015	Course work completed
3	Dr. K R Rekha, SJBIT, Bengaluru	Prof. SHALINI V.	VTU, SJBIT	JUN 2015	Course work completed
4	Dr. Shobha KR, MSRIT, Bengaluru	Prof. RAKHI S.	VTU, MSRIT	DEC 2014	Course work completed
5	Dr. Shobha KR, MSRIT, Bengaluru	Prof. SAMPADA HK	VTU, MSRIT	DEC 2014	Course work completed
6	Dr. Abhay Deshapande, RVCE, Benagluru	Prof. SAMEERA P.	VTU,RVCE	July 2019	On going course work

Details of Existing Research Facilities

Sl. No	Facility Available	Details of Funds Spent
1	Computers-12	Institution Fund
2	Matlab 2015, software with toolboxes – 5 LICENCES	Rs. 6,39,765/-
3	Function Generators -2	Rs. 48,530/-
4	Digital storage oscilloscope -1	Rs. 74,483/-
5	Spectrum Analyzer – 1	Rs.3,43,500/-
6	Printer -1	Rs. 17,671/-
7	DSP Trainer Kits	Rs. 1,50,000/-
8	AD-FMComms3-EBZ FMC Board along with Antenna	Rs. 1,48,578.00
9	ON PYTHON-1300-C Camera Module	Rs. 74,499
10	Zed Board Zynq-7000 Development Board	Rs. 53440
11	HDMI Input/Output FMC Module	Rs. 39500



Department of ECE Research Center, Atria Institute of Technology, Bengaluru

12	Xilinx Kintex 7	Rs. 68000
13	Embedded Prototyping, Development, Embedded Linux Development Board	Rs. 1,02,850
14	IoT Development, Beaglebone Black boards	Rs. 77,250
15	Raspberry Pi + Camera Module	Rs. 34,000
16	Software Defined Radio	Rs. 72,470
17	6739 DSP Video Processing Development Boards	Rs. 99,710.00
18	MATLAB Toolboxes	Rs. 1,33,236.00
19	Project based components	Rs. 96760
20	Cadence University Bundle analog and digital FE and BE(UG3Y20L)	Rs. 836000

Research Journal Publications by Faculty – CAY (2020-21)

Sl. No.	Faculty Name	Name of the Paper	Journal	Publication Details	ISBN/ISSN	Year of Publication
1.	Jayshree B, Deekshith, Harshith, Spoorthi S P	Design and Implementation of a Reconfigurable Hardware for Source Encoding Algorithms	International Research Journal Of Engineering and Technology (IRJET)	Volume: 07 Issue: 06	ISSN:2395-0056 ISSN:2395-0072	June 2020
2.	Arun Balodi , RS Anand, ML Dewal, Anurag Rawat	Severity Analysis of Mitral Regurgitation Using Discrete Wavelet Transform	IETE Journal of Research	https://doi.org/10.1080/03772063.2020.1814880	ISSN: 0377-2063 ISSN: 0974-780X	September 2020
3.	Varun Srivastava, Shilpa Gupta, Gopal Chaudhary, Arun Balodi , Manju Khari	An enhanced texture-based feature extraction approach for classification of biomedical images of CT-Scan of Lungs	International Journal of Interactive Multimedia and Artificial intelligence	DOI: 10.9781/ijimai.2020.11.003	ISSN 1989 - 1660	November 2020
4	Rakhi S , Rushali Povamma,Varshitha R,Sahana SB, Swathi P	Smart Energy Meter using Lo Ra	International Journal of Advanced Science and	Vol 29,No.10,	4233-4242	October 2020

			Technology			
5	Tejaswini G, Vaishnavi K, Smita C P, Sundari T	Wearable Health monitoring System for Athletes: A Survey	International Research Journal Of Engineering and Technology (IRJET)	Volume: 08, Issue: 04	2395-0056	April, 2020

Research Conference Publications by Faculty- CAY (2020-21)

Sl. No.	Faculty Name	Name of the Paper	Conference Details	Date & Place of Conference	DOI/ISBN number
1.	Roshan Kumar, Mohamed Ismail, Wei Zhao, Mohammad Noori, Arvind R. Yadav, Shengbo Chen, Vikash Singh, Wael A. Altabey, Ahmad I. H. Silik, Gaurav Kumar, Jayendra Kumar, Arun Balodi	Damage Detection of Wind Turbine System Based on Signal Processing Approach : A critical review	IEEE International Conference on Electrical, Electronics, Computer Communication, Mechanical and Computing (EECCMC),	Jan 2021	https://doi.org/10.1007/s10098-020-02003-w Electronic ISSN 1618-9558 Print ISSN 1618-954X

2	Prasuna VNP	WSN based Precision agriculture through ESP module	2 nd International Conference on Frontiers of Engineering Inventions- Post Covid 19 priorities (ICFEI-II-2021)	Jan 2021	https://easychair.org/account/signin_timeout?l=O8SUBcaFGxLYPT6ETmzJa#
3	Ambar Bajpai, Arun Balodi	Role of 6G Networks: Use Cases and Research Directions	International Conference IEEE Bangalore Humanitarian Technology Conference (B-HTC), Vijaypur, India,	Oct 2020	doi: 10.1109/B-HTC50970.2020.9298017
4	Rafee Ahsan, Pruk Sasithong, Amir Parnianifard, L. Wuttisittikulij, Ambar Bajpai, Muhammad Saadi, Sushank Chaudhary, Sunita Khichar. Pisit Vanichchanunt, Irfan Ullah	Comparative Analysis of Successive Cancellation and List Decoders Using Distinct Combinations of LLRs for Polar Codes	The 3rd International West Asian Symposium on Optical and Millimeter-wave Wireless Communication (WASOWC 2020),	24-25 Nov., 2020 Tehran, Iran	WASOWC Website & Research Scholar

5	Rafee Al Ahsan; Sunita Khichar; Watid Phakphisut; Lunchakorn Wuttisittikulki; Audsadang Ngamjob; Pruk Sasithong; Ambar Bajpai Muhammad Saadi Amir Parnianifard Irfan Ullah May Pyone Han Wai Phyo Pisit Vanichchanunt	A GUI based Self-learning Tool for Polar Codes using Successive Cancellation and List Decoders	IEEE 4 th International Conference on Advanced Information Technologies (ICAIT 2020)	Yangon, Myanmar, 4-5 Nov., 2020	10.1109/ICAIT511 05.2020.9261811
6	PM Shankarappa, Ambar Bajpai	Automatic Traffic Density Control System With Wireless Speed Limit Notification	IEEE 11 th Computing and Communication Workshop and Conference (CCWC-2021)	Las Vegas, USA, 27-30 January, 2021	doi: 10.1109/CCWC51 732.2021.9376053
7	Sameera P , Chetan, Chandan C, Chandrika J	Snake BoT Designs: A Survey	National Conference on Information and Communication Technology, NHCE, Bangalore	23 December 2020	Certificate

Research Journal Publications by Faculty- CAYm1 (2019-20)

Sl. No.	Faculty Name	Name of the Paper	Journal	Publication Details	ISSN No/	Date of Publication
1	Roshan Kumar , Mohamed Ismail , Wei Zhao , Mohammad Noori , Arvind R. Yadav , Shengbo Chen , Vikash Singh , Wael A. Altabey , Ahmad I. H. Silik , Gaurav Kumar , Jayendra Kumar & Arun Balodi	Damage Detection of Wind Turbine System Based on Signal Processing Approach : A critical review	Clean Technologies and Environmental Policy (SCI)	Vol. 23, Issue 01	1618-9558	02 Jan 2021
2	Arun Balodi , R. S. Anand , M. L. Dewal & Anurag Rawat	Comparison of color spaces for the severity analysis of mitral regurgitation	International Journal of Information Technology, Springer	Vol. 11, Issue 7	2511-2112	24 July 2019
3	Bhargav KR, Abhijith R Hegde, Dhruthi Sri Rukmini KR, Tirumalesh V A, Ambar Bajpai ,	Design and Simulation of Microstrip Antenna	International Research Journal of Engineering and Technology	Volume-7 Issue-3	2395-0056	Mar 2020

4	Vasanthi S, Dr. K V Narayanaswamy, Dr. K Karibasappa	FPGA and MATLAB Based Solution for Retinal Exudate Detection	International Journal of Recent Technology and Engineering (IJRTE)	Volume-8 Issue-3	2277-3878,	3/6/2020
5	Vasanthi S, Dr. K V Narayanaswamy, Dr. K Karibasappa	Hard Exudate Extraction from Funus Images using Watershed transform	Indonesian Journal of Electrical Engineering and Informatics	Volume-7 Issue-3	2089-3272 Doi. 10.11591/ijeeci.v7i3.775	Sept 2019
6	Sampada H K, Karthik G S, Charan, Nihal B S	Voice Controlled Smart Mirror With Raspberry Pi	International Journal of Advance Science and Technology	Vol 29, No.10S	2005-4238	May 2020
7	Karthik C Hegde, Vaddi Naga Padma Prasuna, J Vasudev, Purushotham D J, Rakesh S	Emergency Rescue System Using Lora And GSM: A Review	PARISHODH JOURNAL	Volume-9 Issue-3,	2347-6648	May 2020
8	Manjunath V, Dr. Prasuna Vaddi, Vignesh A, R Sujeeth Raj, Kevin Abraham	Self Balancing Electric Vehicle with Fast Charging System	Science, Technology and Development	Volume-9 Issue-4,	0950-0707	April 2020
9	Mithun ,Prashanth,Rakshith,Ravi, Rakhi S	Road Sign Detection And Recognition-A Survey	International Organization of Scientific Research	Vol. 9, Issue. 5	2250-3021	2019
10.	Kavya, Niveditha,Pranamyia,Kiran Kumar, Rakhi S	Protection Of Crops From Rain Water And Generation Of Solar Energy With	International Journal of Engineering Science and Computing	Volume-9 Issue-2	2321-3361	Feb 2019

		Embedded System using GSM Technology				
11	Shalini Vashishta , Nagaraj, Navitha,Pranitha, Mahanta Gowda	Efficient Design of Elliptic Curve Cryptography Based on Montgomery Modular Multiplication	International Journal of Research in Engineering, Science and Managemnt(IJRESM)	Vol 3, Issue 3	ISSN (Online) : 2581-5792	Feb 2020
12	Sampada H K , Karthik G S, Kankshitha S,Charan C, Nihal BS	Voice Controlled Smart Mirror With Raspberry Pi - Survey	International Journal for Science and Advance Research in Technology	Volume 6, Issue 3	2395-1052	May 2020
13	B.Jayshree, Deekshith, Harshith D, Spoorthi.SP	Design and Implementation of a Reconfigurable Hardware for Source Encoding Algorithms	International Research Journal Of Engineering and Technology(IRJET)	Volume 6, Issue 5	e-ISSN:2395-0056 p-ISSN:2395-0072	May 2020
14	Bhaskar M K , Nikitha Reddy B , Rajatha M C, Rakshitha A , Sagar V	Raspberry Pi Based Smart Cap For Visually Impaired People Using Machine Learning	International Journal for Science and Advance Research in Technology (IJSART)	Volume 6, Issue 3	ISSN [ONLINE]: 2395-1052	March 2020
15	Akshaya Hari, Ayesha Afnan, Junaid Abbas, Faisal Ahmed Shariff , Ramesh Nuthakki	Speech Enhancement Using Ideal Binary Mask Based on Channel Selection Criteria	International Journal of Research in Engineering, Science and Management,	Volume-3, Issue-1	ISSN (Online): 2581-5792	Jan 2020
16	Ramesh Nuthakki , Naik D C, A Sreenivasa Murthy	A Literature Survey On Single Channel Speech Enhancement Techniques	International Journal Of Scientific & Technology Research	Volume 9, Issue 03	ISSN 2277-8616	Mar 2020
17	S.U.Lakshmeesh,K.S Karthik ,Nagabhushan Hegde, Ramya C.N	Underwater Communication Using Li-Fi	International Journal Of Research In Engineering,Science	Volume 3, Issue 03,	ISSN(Online)-2581-5792	March - 2020

			And Management,			
18	Y Pushpa , H Yogesh, Syed Faraz, Ranjit Kumar, Shoaib Ulla Khan	Solar Power Water bodies Garbage Collecting Machine using IoT	International Journal of Research in Engineering, Science and Technology	Volume: 3 Issue: 2	eISSN 2581-5792	Feb 2020
19	K Chetan Kumar, Neha N, Kamatham Tejaswini, Namratha V, Sundari Tribhuvanam	Emotion Recognition Based on Facial Expressions and Hand Gesture Using Image Processing-A Survey	International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering (IJAREEIE)	Volume 9, Issue 4,	e-ISSN: 2278 – 8875	April 2020
20	Swati Somayaji , Aditya R Dharamshi, Ashutosh Kumar, Dhruv Kumar Kalwar	Traffic Management System – A Comparative Study	Journal of Engineering Research and Applications	Volume 10, Issue 3	2248-9622	Mar 2020

Research Conference Publications by Faculty- CAYm1 (2019-20)

SI. No.	Faculty Name	Name of the Paper	Conference Details	Date & Place of Conference	DOI/ISBN number
1.	Dr. Arun Balodi , R. S. Anand, M. L. Dewal & Anurag Rawat	Comparison of color spaces for the severity analysis of mitral regurgitation	4th IEEE International Conference on Computing for Sustainable Global Development (INDIACom)	July 2019	DOI: 10.1007/s00531-018-3935-x

2	<p>Htain Lynn Aung, Tay Zar Bhone Maung, Pruk Sasithong, Teesid Sreprasurt, Sanika Wijayasekara, Manus Pengnoo, Lunchakorn Wuttisittikulki, Watid Phakphisut, Chairat Phongphanphane, Ambar Bajpai, Muhammad Saadi, Pisit Vanichchanunt</p>	<p>Learning Polar Codes using Python Program with Graphical User Interface</p>	<p>2019 34th International Technical Conference on Circuits/Systems, Computers and Communications (ITC- CSCC)</p>	<p>July-2019</p>	<p>doi: 10.1109/ITC- CSCC.2019.8793295.</p>
3	<p>Nuskit Noomwongs,Prin Phuttaburee,Lattapol Wongpiya,Anurup Skulthai,Muhammad Saadi, Ambar Bajpai,Tay Zar Bhone Maung, Ye Moe Myint,Irfan Ullah,Lunchakorn Muttisittikulki</p>	<p>Design and Testing of Autonomous Steering System Implemented on a Toyota Ha:mo</p>	<p>International Conference on Electronics, Information, and Communication (ICEIC), at Barcelona, Spain</p>	<p>Jan 2020</p>	<p>DOI: 10.1109/ICEIC49074.2020.9051176</p>

4	Dr. Shalabh K Misra	Optimized First-order s-to-z Mapping Function for IIR Filter Designing	20th International Conference on Intelligent System Application to Power Systems (ISAP)	10-14 Dec 2019	Doi: 978-1-7281-3192-4/19
5	Dr. Prasuna VNP	Impact of COVID on Human Values and Technology	E-Conference on Human Values: Post Covid 19	14 th June 2020	TEQIP-3

Research Journal Publications by Faculty- CAYm2 (2018-19)

Sl. No.	Faculty Name	Name of the Paper	Journal	Publication Details	ISSN No/	Date of Publication
1	Ramya C N, Naveen G C, Sucharitha N N, Aiswariya Dev S	Leaf Disease Detecting Using Cnn Technique	International Research Journal Of Engineering And Technology (IRJET)	Vol 6, Issue 5,	eISSN-2395-0056	May 2019
2	Ramya C N, Naveen G C, Sucharitha N N, Aiswariya, Karthik V	Review on Leaf Disease Detecting Using CNN Technique	International journal of (IJSART)	Vol 5, Issue 2,	2395-1052	Feb 2019

3	Ramya C N, Swathi S, Subhashitha D, Tejeswini B M, Varsha V	IOT Based Stroke Rehabilitation System	International Journal Of Engineering Science And Computing(IJESC), Volume 9,issue No 5	Vol 9, Issue 5,	2321-3361`	May 2019
4	Dr. Kishore M, Hinduja R, Hema N G, Feba M Joseph	FUEL DATA MONITORING SYSTEM	International Journal For Science And Advance Research In Technology Vol5, Issue 3	Vol 5, Issue 3,	ISSN 2395- 1052	Mar 2019
5	Dr. Kishore M, Archana H, Devika N, Bindushree S, Hemanth Kumar	Google AI Open Images and Object Detection Tracking	International Journal For Science And Advance Research In Technology Volume 5,issue 3	Vol 5, Issue 3,	2395-1052	Mar 2019
6	Vinutha R, Srihari S S, Srinatha K N, Sampath N	A Survey On Design And Control Of Hexapod Robot	International Journal For Science And Advance Research In Technology Volume 5,issue 4	Vol 5, Issue 4 April 2019	2395-1052	April 2019
7	Shobha P C, Raghavendra K, Mallikarjun Wali, Rakesh M, Gyanendra Singh	Mobile Charging System Using Coin And Rfid With Solar Tracking-A Survey	International Journal For Science And Advance Research In Technology Volume 5,issue 2	Vol 5, Issue 2	2395-1052	Feb 2019

8	Vasudeva G , Ishitha Mishra, Aakriti Kumari, Manasa Kv, Punarvasu Rk	Montgomery Multiplier In Galois field	International Journal For Science And Advance Research In Technology, Volume 5,issue 4	Vol 5, Issue 4	2395-1052	April 2019
9	Kavitha S , Meghana R, Megha M, Manasa Ks, Nagalakshmi	IoT Based Medicine Dispenser	International Journal For Science And Advance Research In Technology	Vol 5, Issue 2	2395-1052	Feb 2019
10	Kavitha S , Parina Kn, Neelam R Sattur, Pushpanjali S	Underwater Robot With Wireless Communication (through Zigbee)	International Journal Of Scientific And Engineering Research	Volume 10, Issue 3	2229-5518	March 2019
11	Pushpa Y , Sandhya J, Sadiya Sultana, Shilpa S, Sneha M B	Review Paper On IoT Based Agribot	International Journal For Science And Advance Research In Technology, Volume 5, Issue 4	Vol 5, Issue 4	2395-1052	April 2019
12	Pushpa Y , S B Soumya, Seemab Sultana, S M Shivani, Vamara Velli Kavya	Multifunctional Robots: A Review	International Journal Of Advanced Research, Ideas And Innovations In Technology , Volume 5 , Issue 2	Vol 5, Issue 2	2454-132X	Feb 2019

13	A Syed Abrar, H N Guru Shambhu, Dheeraj Kumar P H, Swati Somayaji ,	A Review On Driving Event Detection And Driving Style Classification	International Journal Of Engineering And Computing	Vol 9, Issue 3, March 2019	2321-3361	Mar 2019
14	Poornima B , Smruthi P, Shubhamangala K, Swathi P, Shridhar J A	Driverless Car Using Machine Learning – A Review	International Journal For Science And Advance Research In Technology, Volume 5, Issue 3	Vol 5, Issue 3, March 2019	2395-1052	Mar 2019
15	Shridhar J A Shubhamangala K, Smruthi P, Swathi P, Poornima B ,	Design and Development of Driverless Car Using Machine Learning	International Research Journal of Engineering and Technology,	Vol 6, Issue 6	2395-0056	June 2019
16	Ramesh N , Anubhav Singh, Goutham Kumar V, Jayanth Kumar M P, Chetan S G	Speech Enhancement Using Binary Mask Technique	International Journal Of Advance Research, Ideas And Innovation In Technology, Volume 5, Issue 3	Vol 5, Issue 3	2454-132X	Mar 2019
17	K Priya , Rekha H, Ranjitha B, Rachana B,	Review Of Detecting Dengue Fever And Leukemia Cells	International Journal Of Engineering Science And Computing, Volume 9 Issue No.3	Vol. 9, Issue 3	2250-1371	March 2019

18	Dr. Ipshita B M, Kaustubh Bannintheya K, Pranav Kumar M P, Risha Fathima P	Variable Digital Filters Used For Hearing Aid Application: A Survey	International Journal Of Engineering Research And Applications (IJERA),	Vol 9 - Issue 4 (Part – 3),	Doi:10.9790/ 9622- 0904032833	April 2019
19	Dr. Ipsita B M, Harshitha D, Bhargav B M	Methodologies In Augmented Reality	International Research Journal Of Engineering And Technology (IRJET),	Volume 6,issue 3	2395-0056	March 2019
20	Rekha B N, Vinod Rao S, Vishwas V, Yadava Shashi Kiran, Sanjay N	Iot Based Bridge Monitoring System And Boat Collision Avoidance Using MATLAB-a Survey	International Journal For Science And Advance Research In Technology	Volume 5,issue 2	2395-1052	Feb 2019
21	Sampada H K, Vikram Pole, Shishir Y G, Sharath Sankar, Vishwanath J H	Review Paper On Navigation, Navigational Systems And Methodologies	International Journal for Science and Advanced Research in Technology (IJSART)	Volume 5, Issue 3	2395-1052	Mar 2019
22	Vasanthi S, Poornimanayak, Anithalakshmi Kc, Sowmya H	Diabetic Retinopathy Detection Using Machine Learning And Texture Features	Ices An International Journal,	Volume 2,issue 11	2566-932X	Feb 2019
23	Dr. Sanjay Vishwakarma, Yogitha Hegde, Vineeth V, Sunil	Design and Simulation of Tunable Microstrip Patch Antenna for S- band Applications	International Journal For Science And Advance Research In Technology	Volume 5,issue 3	2395-1052	Mar 2019

	Gowda,Tasmiya Tazeen					
24	Rakhi S , Prashanth A, Ravi Kumar G N, Mithun H, Rakshith N	Road Sign Detection And Recognition System- A Review	International Organization Of Scientific Research	Volume 9 , issue 5	2250-3021 Doi:10.9790	May 2019
25	Rakhi S , Pranamya H R, Kavya N C, Niveditha T S, Kiran Kumar R	Protection Of Crops From The Rain Water and Generation Of Solar Energy with an Embedded System Using GSM Technology	International Journal Of Engineering Science And Computing	Volume 9 , issue 2	2321-3361	Feb 2019
26	Sundari T , Ajith S Bhat, Balaji J, G V Venkat Manoj Raju, Jaysurya B Shetty,	Image Processing Based Traffic Light Control And Emergency Services- A Survey	International Journal Of Engineering And Computing	Vol-9, Issue-4	2250-1371	April 2019

Research Conference Publications by Faculty- CAYm2 (2018-19)

Sl. No.	Faculty Name	Name of the Paper	Conference Details	Date & Place of Conference	DOI/ISBN number
1	Dr. Ipsita Biswas Mahapatra	An Algorithm-Architecture Co-designed System for dynamic execution-driven Pre-Silicon Verification	8th IEEE International Symposium on Embedded Computing and System Design (ISED)	13-15 Dec. 2018	<u>DOI:</u> <u>10.1109/ISED.2018.8704038</u>

2	Sampada H K, K R Shobha	Performance Analysis Energy efficient MANETS using modified AODV	Springer International conference on Computer Networks and Inventive Communication Technologies, Hotel Arcadia, Coimbatore	Sept 2018	978-981-10-8680-9 (Print) 978-981-10-8681-6 (Online)
3.	Rakhi S, K R Shobha	Performance Analysis of an Efficient Data-Centric Misbehavior Detection Technique for Vehicular Networks	Springer International conference on Computer Networks and Inventive Communication Technologies, Hotel Arcadia, Coimbatore,	Sept 2018	978-981-10-8680-9 (Print) 978-981-10-8681-6 (Online)
4.	Vasanthi S, KV Narayana Swamy, Karibasappa	Detection of Exudate from Fundus image	Springer Conference on Intelligent Systems Design and Applications. ISDA 2018	April 2019	Print ISBN 978-3-030-16656-4
5.	Vasanthi S, KV Narayana Swamy, Karibasappa	An Embedded System for Watershed Based Hard Exudate Extraction	Springer Conference on Intelligent Systems Design and Applications. ISDA 2018	April 2019	Print ISBN 978-3-030-16656-4
6.	Vasanthi S, Dr. K.V. Narayanaswamy,	Exudate Extraction from Fundus Images	IEEE - 2019 11th International Conference on Knowledge and Smart Technology (KST)	January 2019	2374-314X (P)
7.	Sameera P, Dr Abhay Deshpande	Pomegrante Disease and detection using sensors- A review	IEEE International Conference	10 July 2019	Doi: 978-1-5386-5657-0/18



8.	Dr. Ipshita B, Kaustubh Banninathaya K, Pranav Kumar M P, Rishla Fathima P	Reconfigurable Warped Digital Filter Architecture For Hearing Aid	4th International Conference On Communication And Electronics Systems (ICCES-2019)	17-19 July 2019	IEEE xplore digital library
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Sponsored Project CAYm1 2019-20

Sl. No.	Project Title	Funding Agency	Amount in Rupees	Principal Investigator	Duration	Year of
1.	Access to Architecting with Google Cloud Platform specialization 4 months access for 80 students and one faculty	Google	Rs.3698 per month 4 months access for 80 students and one faculty 1198152/-	Prof. Sufiam Kaki Aslam	4 months	2019-2020
2.	Qwiklabs Credits	Google Cloud	150 credits \$142.29 / 150 credits, granted to 80 students and 1 faculty 794645.35	Prof. Sufiam Kaki Aslam	One time	2019-2020
3.	50% Exam Voucher towards Google Associate Cloud Engineer Certification	Google	50% of \$125 Granted to 80 students and 1 faculty 348553.125	Prof. Sufiam Kaki Aslam	One time	2019-2020



4.	One GitHub Enterprise Campus Progran License	GitHub	One(1) Year Subscription Term from Octo 1 2019	Sufian Kaki Aslam	One Year	2019-2020
5.	ARM_University Grant	Arm Development Solutions Group	DS000-KD-41001 (r19p1) - Arm DS Gold Edition FL Term (Export Classification Number: 3D991) 60 Licenses	Sufian Kaki Aslam	One time	2019-2020

Sponsored Project CAYm2 2018-19

Sl. No.	Project Title	Funding Agency	Amount in Rupees	Principal Investigator	Duration	Year of sanction
1.	Advancement of Signal Processing Laboratory –“Air borne Recognition System	VGST, Govt of Karnataka	10,00,000	Sundari Tribhuvanam	1 yr	2018-2019

Product Development

Sl. No.	Name of the Faculty members	Product Title	Duration
1.	Sufian Kaki Aslam	Web based Employee Management System for Pay slip generation	2020-21

2.	Sufian Kaki Aslam	Industrial IoT Gateway	2018-19
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Research and CoE Lab's

Sl. No.	Name of the Lab	Co-ordinator	Existing since	Activities
1.	IoT Lab	Sufian Kaki Aslam	2018	SDP-03 FDP-02 Mini Projects-10
2.	VGST Sponsored Research Lab	Sundari Tribhuvanam	2015	SDP-03 FDP-03 Mini Projects-10
3.	VLSI Lab	Dr. Ipsita Mahapatra/Prof. Rakhi	2018	SDP-2 FDP

Summary of Activities in the Research Laboratories

Faculty Development Activities

1. IoT Lab

2020-21					
S. No.	Activity	Duration	Date	Target Audience	Resource person/s
1	National level FDP on “Role of IoT and Wireless Sensor Network in Knowledge Engineering”	3 days	14-19 th Sept 2020	Faculty (inter college)	Prof. Sufian K Aslam Dr. Pramod M S Dr. Prasuna VNP
2018-19					
2.	Workshop on IoT, Python and Data Analytics	5-Days	18-24 July 2018	Faculty (inter college)	Prof. Sufian Kaki Aslam
3.	RTOS and Machine Learning in the Edge Devices	5-Days	14 th Jan- 19 th Jan 2019	Faculty (across bangalore)	Prof. Sufian Kaki Aslam



4	Analog and Digital IC Design flow using Mentor Graphics Tool	3-Days	19 th 20 th Sept., 3 rd Oct 2018	Faculty (inter college)	Dr. Ipshita/ Prof. Rakhi Mr. Vijendra from CorEI Technologies Ltd.
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2. VGST sponsored Research Lab

2020-21					
	Activity	Duration	Date	Target Audience	Resource person
1	5-Day FDP on “Advancement in Signal and Image Processing”	5 Days	8 th -12 th Feb 2021	Faculty (inter college)	Dr. Nishant Jain Dr. Arun Balodi, Dr. Yogesh Saria, Md. Rizwan Jaffar Dr. Ambar Bajpai Dr. Arvind K Yadav, Dr. Anjali Gautham, Dr. Shalabh K Mishra Prof. Sufian Kaki Aslam Prof. Ramesh N Prof. Sundari T

2019-20					
1	5-Day FDP on Research Writing in High Quality International Journal/Conferences"	5 Days	10-14 Aug 2020	Faculty(across India)	Dr. Arun Balodi, Dr. Ambar Bajpai, Dr. Kishore K Padapenki Dr. Arvind K Yadav, Dr.Gaurav Saini
2	Sequential FDP for equipment's of VGST sponsored Lab	5 Days	30 th July, 16 th Aug, 23 Aug, 27 Sept, 15 Oct 2019	Faculty(in house)	Mr. Mohammed Hussain StarComm Information Technology Ltd. Raghuvveer Etronics, Chetan Prasad and Pallavi Altilogic Technologies. Rakshit from CorEI Technologies

Student Development Activities

IoT Lab

S. No.	Activity	Duration	Date	Target Audience	Task completed
1	Flutter JAM - WeWork	1	06/07/2019 - SATURDAY	1	Building flutter apps
2.	Cloud Study Jam	1	03/08/2019 - SATURDAY	35	Hands-on lab on getting started with google cloud platform



3	DSC Viewing Party	1	24/08/2019 - SATURDAY	1	Exposure to sessions on ML, Web, Cloud and more by googlers
4	Django Session	1	28/08/2019 - WEDNESDAY	30	Basic hands-on and application building with Django.
5	Hyperloop - Kiran	1	05/09/2019 - THURSDAY	65	Session and exposure to tech at hyperloop and engineering competitions
6	Paul - Google	1	07/09/2019 - SATURDAY	1	Exposure to tech mindset at Google and life lessons from a googler
7	Cloud Orientation	1	26/09/2019 - THURSDAY	1	Getting started with GCP cloud readiness program
8	Tensorflow Roadshow	1	01/10/2019 – TUESDAY	1	Interaction and feedback session with the Google Tensorflow Team
9	Explore ML	1	24/10/2019 - THURSDAY	15	Getting started with ML
10	Placement Myth - Alumni - Akshay	1	25/10/2019 – FRIDAY	15	Mindset to get best placements and life lessons from an alumni who is in IISC.
11	MakerFaire	1	28/10/2019 – MONDAY	10	Our first successful project
12	Explore ML	1	07/11/2019 - THURSDAY	10	Demo and continuation of ML series
13	Makeathon	1	14/11/2019 - THURSDAY	5	mentors and advisors
14	MLH - Local Hack Day	1	07/12/2019 - SATURDAY	35	Sessions on conversational AI and github
15	TinkerCAD- Electronic Simulation & design	1	18/02/2020 - SATURDAY	35	50+ participants learnt how to use TinkerCAD and also a primer on IoT projects

16	HashCode - CIA Hub	1	20/02/2019 - THURSDAY	20	Participated in hashcode
17	Introduction to Quantum Computing	1	28/02/2019 - FRIDAY	6	Learned the basics of Quantum Computing and also what are the future scope of computation
18	Community chat on Embedded Systems	1	18/09/2018 – TUESDAY	30	Community interaction initiated. IOT oriented talks
19	Android User Interfaces (UI)	1	19/09/2018 - WEDNESDAY	18	Community members realized the importance of User Interfaces. Got a glimpse of how UI is used in Android Ecosystem.
20	WebDev Lab	1	20/09/2018 - THURSDAY	30	Juniors were excited to know about the upcoming trends and technologies in web. Together we live coded a portfolio. Domain specific conversations like payments, back-end services and hosting
21	Design Thinking	1	22/09/2018 - SATURDAY	25	Community members were introduced to the principles of Design Thinking. Together we applied design thinking to common problems
22	CPU'ED - CPU Deconstructed	1	24/09/2018 – MONDAY	20	We dismantled a CPU and learnt all its components. They were so excited that they took home ram sticks and other components

23	Discussion on Android	1	26/09/2018 - WEDNESDAY	25	An in-depth understanding of android platform, it's boot up process, how AOSP rom is distributed and customised among the mobile vendors and also how custom roms are built and it's setup process
24	Intro to Cognitive Computing	1	27/09/2018 - THURSDAY	24	Everyone were on the same page about AI/ML. We had an interactive and brainstorming session about the future of AI & an open panel discussion with some controversial topics on AI/ML
25	Get Drone'd	1	28/09/2018 - FRIDAY	20	Theoretical basics and demonstration of drones and its accessories
26	How to get your idea to the Market	1	29/09/2018 - SATURDAY	24	Founders talk of HYPERBLOOM, IICDC 2017 Winners and funded by GOI.
27	Car in-Depth	1	29/09/2018 - SATURDAY	20+	Students from all branches were given an engineering tour of the car being built at college
28	Actions on Google	1	04/10/2018 - SATURDAY	35	We all built a basic skill to Google Assistant using Actions on Google Platform
29	Tensorflow Conference	1	05/10/2018 - SATURDAY	1	Explored upcoming features in tensorflow(ML library), interaction with google tensorflow team
30	AOG Hackathon -hosted by Actions on Google Team.	1	10/10/2018 - SATURDAY	20	4 teams represented ATRIA @ a Google hackathon held at Reva University. We had personal interaction with Googlers

31	DevFest by Google Developer Groups and BLRDroid. (Developer Conference)	1	13/10/2018 - SATURDAY	24	A very interactive and informative day with a lot exploratory talks and sessions. Also, got amazing exposure on how tech communities run and how they are impacting lives
32	AMP (Conference)	1	24/10/2018 - SATURDAY	8	Interaction with Google AMP team. AMP(Accelerated Mobile Pages) is the next big way to render web pages
33	CTF Hackathon (IOT Next)	1	26/10/2018 - 27/10/2018 – Monday&Tuesday	4	Exposure to hacking and security of IOT
34	Startup Weekend (54 hrs Hackathon)	1	26/10/2018 - 28/10/2018 - SATURDAY	2	Steep learning curve on building a tech business. Won 2nd place
35	IOT Next Workshops/Master class	1	30/10/2018 - SATURDAY	20	Great learning across 5 Workshops/masterclasses relating to IOT and its future
36	Volunteer at <u>IoT Next Workshops</u>	1	30/10/2018 - SATURDAY	8	Networking with Delegates, Exposure to future trends in IoT and interaction with industry executives
37	Participation at <u>IoTNext's LoRaWAN Workshop</u>	1	30/10/2018 - SATURDAY	24	Learn and understand the challenged communication channel and protocol for IoT in Smart City, by Tata Communications Limited
38	Participation in IoT Next Conference	1	31/10/2018 - SATURDAY	8	Exposure to future trends in IOT and interaction with industry executives

39	Makeathon	1	2/11/2018 - 3/11/2018 - SATURDAY	15	Participants got an opportunity to ideate at par with best colleges across Bangalore. Organizers facilitated around 100 students to work on real industry problems
40	Google Cloud Meetup	1	2/11/2018 - 3/11/2018 - SATURDAY	1	Interaction and feedback session with the Google Cloud Team

VGST sponsored Research Lab (Project done by ECE faculty)

2020-21				
S. No.	Faculty Name	Title of the Project	Tools and Hardware	Resulted in Publication
1	Sundari T	GUI for ECG Interpretation	MATLAB 2018A	No
2	Ramesh Nuthakki	Speech Enhancement based on noise constrained using binary mask techniques	MATLAB 2018A	No
3	Pushpa Y& Shobha PC	Design and Simulation of microstrip antenna for wireless application(S Band)	MATLAB 2018A, Antenna test bench	No
4	Pavithra K S	2 Days Workshop on Signal processing using SciLab	MATLAB 2018a	No

5	Pavithra K S			Yes (published in IEEE Conference in Feb 2021)
2019-20				
1	Sundari T	ECG acquisition from paper strip data for arrhythmia detection	MATLAB 2018a	No
2	Ramesh Nuthakki	Speech Enhancement using DD, TSNR, HSNR techniques	MATLAB 2018a	No
3.	Shobha PC & Pushpa Y	Design and Simulation of UWB microstrip antenna	MATLAB 2018a & Antenna test bench	No
2018-19				
1	Sundari T & Swati Somayaji	Evaluation of Gray Scale Images using single image metrics	MATLAB 2018a	No
2	Ramesh Nuthakki	Speech Enhancement using spectral subtraction technique	MATLAB 2018a	No

VLSI Research Lab (Projects done by ECE faculty)

2020-21				
S. No.	Faculty Name	Title of the Project	Tools and Hardware	Resulted in Publication
1	Spoorthi S P	Implementation and Comparative analysis of Full adder using 180nm,90 nm and 45nm Technology in Cadence	Virtuoso Cadence	Yes (To be presented in IEEE 5Nano on 28 th 29 th April 2021)
2019-20				
2	Spoorthi S P	Low Power High Speed Comparator in 180nm CMOS Technology using Cadence	Cadence Tool	No
2018-19				
3	P. Shalini V	IP Core Generation Wallace Tree Multiplier	Xilinx	No

IoT Research Lab (Projects done by ECE faculty)

2020-21				
S. No.	Faculty Name	Title of the Project	Tools and Hardware	Resulted in Publication

1	Dr. Prasuna VNP	Precision agriculture using wireless sensor network	WSN Simulator	No
2019-20				
2	Dr. Prasuna VNP	IoT Protocols	Node MCU	Yes
2018-19				
1	Dr. Prasuna VNP	Challenges in sensor network	WSN Simulator	No

Any other information:

The following are the Research Activities held in the ECE research center:

- Organized Project building workshop for ECE Students
- Co-organized a FDP/Workshop along with the IEEE student chapter.
- Developed [IoT Workshop](#) and [IoT Course](#) Modules using various hardware and software platforms such as MSP430, Arduino, ESP8266 etc. for students to learn and work at their own pace.
- Organized Faculty Development Program on IoT, Python and Data Analytics
- 5 Day's National Level Online Faculty Development Programme on "Research Writing in High Quality International Journal/Conferences" organized by Department of Electronics and Communication Engineering of Atria Institute of Technology during 10-14 August 2020.
- 3 Day's Online Faculty Development Programme on "Role of IoT and Wireless Sensor Network in Knowledge Engineering" organized by Department of Electronics and Communication Engineering of Atria Institute of Technology, Bengaluru, India during 14-19 September 2020 .



Department of ECE Research Center, Atria Institute of Technology, Bengaluru

- 5 Day's Online Faculty Development Programme on "Advancement of Signal Image Processing" organized by Department of Electronics and Communication Engineering of Atria Institute of Technology, Bengaluru, India during 08-12 February 2021 .
- Conducted webinar on "Application of Artificial Intelligence and Machine Learning in Real Life " in Atria Institute of Technology, Bengaluru, India, 16th April 2020.
- Conducted webinar on "Role and Demand of 5G in Information and Communication Technology" in Atria Institute of Technology, Bengaluru, India, 30th April 2020.
- Conducted webinar on "IoT for You and Me" in Atria Institute of Technology, Bengaluru, India, 07th May 2020. (Prof. Sufian)
- A webinar on "Course Outcome Attainment- Follow up training" was hosted by IQAC, Atria Institute of Technology on 20th June 2020, 10 AM to 11:30 AM.
- Conducted a webinar "BEAUTIFUL RESULTS FROM A BEAUTIFUL MIND" by Prof. Y. Narahari, Chair of the Division of EECS, Dept. of Computer Science, IISc, Bengaluru, 560024, on Friday, 03 July 2020 at 02:30-03:30 PM.
- A webinar on "Computer Vision Application Design" was hosted by the Department of Electronics and Communication Engineering, Atria Institute of Technology, in association with PANTECH Solutions on 14 July 2020.
- A webinar, One day FDP on "Restructuring Assessment in Engineering Education and Accreditation" in association with Mastersoft ERP Solutions Private Limited was hosted by IQAC, Atria Institute of Technology on 25th July 2020, 10:00 AM to 1:00 PM.
- Organized a workshop on "How to Improve Teaching Methodology" at Atria Institute of Technology, Bengaluru on July 27, 2020.
- An Annual Refresher Programme on "Quality System and Accreditation" was hosted by IQAC to the non-teaching staff, Atria Institute of Technology on 5th Oct.2020, 2:00 PM to 3:00 PM.
- A webinar on "Program Outcome Attainment" was hosted by IQAC, Atria Institute of Technology on 10th Oct.2020, 10:30 AM to 12 Noon.
- "Workshop on Virtual labs", Atria Institute of Technology on 29th Oct.2020, 2:30 PM to 4.30 PM.
- A hands-on workshop on "Digital Image Processing", conducted on 4 Dec2020, 2:30 pm to 4:30 pm.
- Bootcamp on Python Programming Language, conducted from 17-19 Dec 2020.
- A SDP was conducted named "Cats-vs-Dogs classifier using TensorFlow" on September 13 @ 2:30 pm - 4:30 pm IST.
- IEEE International Workshop on Ethical Hacking & Cyber Security on 12 November, 2020.
- IEEE International Workshop on Digital Image Processing Workshop on 4th December 2020 by Prof. Sundari T.
- AWS Academy Cloud Foundations Program - 20 students participated in a month long course.
- Hands-on Workshop on How to Host Websites on AWS: 03rd June 2020.



MoUs

- IEEE Bangalore Section via Atria IEEE Student Branch
- IETE Bangalore Section via Atria IETE Student Branch
- IIRS-ISRO Nodal center
- Software sponsorship from ARM University Program
- Benefitted 19 students through IoT training program
- Renewal of Github Education membership, worth 50,000 USD
- Hundreds of students with valid student email got access to digital facilities worth \$200,000.
- Membership in AWS Academy Program
- 20 students participated in a month-long online AWS Academy Cloud architecting program
- Membership in AWS Educate Program
- About 40 students enrolled into AWS Educate, benefitting from various online course on Software Development, Cloud Computing, etc and \$200 AWS credits for each student
- Partnered with Google Cloud on Career Readiness Program
- 80 students participated in the 4 months long program and about 80% completed the training

Industries Tie-Ups

Training Consultancy to UK-based Industrial IoT company, IN4.0. Offering training on Cloud Computing and Internet of Things.

Multidisciplinary Projects done in COE

- Automatic Farm Irrigation System
- Smart Dust bin
- Surveillance Robot
- Alexa Controlled Home appliances
- Smart City Model



- RFID based Access/Attendance System
- Pick and Place Robot
- Vehicle/Baggage Tracker device
- Effective street lights and traffic lights system
- Burglar detection system
- Smart door bell with face recognition

Participation

- Faculty Incharge of IoT CoE participated in India-EU ICT Organized Tutorial and Hackathon on Smart City at IISc, Bangalore
- Various student teams participated in inter-college project competitions

Analytics

- No. of Students Registered for IoT CoE Training + Projects - 84
- No. of Students actively participated in regular CoE activities – 27

Outcomes

- Developed 17 different projects by interfacing different sensors using Arduino, NodeMCU and Raspberry Pi.
- The project on smart dust bin is appreciated by International airport officials and has invited the student for discussion.
- Participated in Project Expo and secured the Prize.
- Introduced the concept of Cloud computing using different protocols

Understanding:

The Institute / Research center will abide by the conditions laid down by the University as applicable from time to time. The facts furnished above are true to the best of our knowledge.

HoD

Principal