DAYANANDA SAGAR ACADEMY OF TECHNOLOGY AND MANAGEMENT

22Mile, B.M Kaval, Udayapura, Kanakapura Road, Bangalore-560082.

DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

Faculty Name	**Dr. M Kusuma**
Academic Designation	**Professor**
Educational Qualification	**B.E, MTech, PhD**
Experience in Years	**29**
Area of Interest	**Bio-Medical Signal Processing, Machine Learning, Artificial Intelligence, Brain Computer Interface, Big Data Analytics, Cloud Computing, Computer Graphics & Visualization and Computer Vision**
Date of Birth	**05-05-1965**
Email ID	**kusuma-is@dsatm.edu.in** **kusumalak@gmail.com**

Educational Details

- Ph.D   - Visvesvaraya Technological University
- M.Tech   - AAIDU – Deemed University
- PGDSA   - SJCE, Mysore University
- B.E   - BMSCE, Bangalore

Personal Details

- Hobbies: Reading, Meditation, Travel, Health and Drug De-addiction camps
- Languages Known: English, Hindi, Kannada

Professional Experience

- Professor in Dept of ISE, DSATM from March 2018
- Associate Professor in Dept of CS&E, DSCE from Jan 2013 to Feb 2018
- Assistant Professor in Dept of CS&E, DSCE from Oct 2012 to Dec 2012
- Senior Lecturer in Dept of CS&E, DSCE from Aug 2006 to Sep 2012
- Senior Lecturer in Dept of IS&E, BNMIT from Feb 2006 to July 2006
- Lecturer in Dept of ISE, JSSATE from Nov 1998 to Jan 2006

Publications

International Journals:

1. Nagarathna C R, Kusuma Mohanchandra "An Overview Of Early Detection Of Alzheimers Disease" accepted for publication in International Journal of Medical Engineering and informatics, Inderscience Publications**, (Scopus Indexed)**. DOI: 10.1504/IJMEI.2021.10042418
2. Nagarathna, C. R., and M. Kusuma. "Classifying the stages of Alzheimer's disease by using multi layer feed forward neural network." Procedia Computer Science, Elsevier, Volume 218 (2023): Pages 1845-1856. https://doi.org/10.1016/j.procs.2023.01.162

3. Monisha M, Harshitha K M, Dhanalakshmi N H, Kokatam Sai Prakash Reddy, Nagarathna C R and Dr. Kusuma M. "Early detection of Alzheimer's using blood plasma proteins with Recurrent Neural Networks." International Journal of Engineering Research in Computer Science and Engineering (IJERCSE) Vol 9, Issue 12, December 2022. ISSN (Online) 2394-2320

4. Nagarathna, C. R., and M. Kusuma. "Detection and Classification of Alzheimer's Disease using Deep Learning Techniques." New Frontiers in Communication and Intelligent Systems, SCRS, India, 2022, pp. 301-307. https://doi.org/10.52458/978-81-95502-00-4-31

5. C R. Nagarathna, and Kusuma M. "Ensemble approach for early detection and classification of stages of Alzheimer's disease." Alzheimer's & Dementia 18 (2022): e059124., 18: e059124. https://doi.org/10.1002/alz.059124 Scopus Indexed journal-Q1

6. Murugaiya Ramashini, Pg Emeroylariffion Abas, Kusuma Mohanchandra, Liyanage C De Silva, "Robust cepstral feature for bird sound classification" International Journal of Electrical and Computer Engineering (IJECE)**, (Scopus Indexed)**.

7. Arpitha, M. J., B. Binduja, G. Jahnavi, and Kusuma Mohanchandra. "Brain Computer Interface for Emergency Virtual Voice." **International Journal of Artificial Intelligence** 8, no. 1 (2021): 40-47. **DOI:** https://doi.org/10.36079/lamintang.ijai-0801.222

8. Deeksha K, Amrutha M, Harshitha, Ashwini Gotyal, M. Kusuma. "Diabetes Predictor System using Machine Learning Algorithms over Live Cloud Infrastructure." International Journal of Innovative Science and Research Technology, Volume 5 - 2020, Issue 4 – April, ISSN No:-2456-2165, https://goo.gl/DF9R4u

9. A H Ravikiran, Kiran K G, M Shashank Reddy, Mallela Yashwanth Sai, Kusuma M. "Survey on Identification of Gender of Silkworm Using Image Processing." International Journal of Innovative Science and Research Technology, Volume 5 - 2020, Issue 2 – February, ISSN No:-2456-2165, https://goo.gl/DF9R4u

10. Manvi, Anuraag, Amaan Masood, and Kusuma Mohanchandra. "Brain Operated Wheelchair System." International Journal of Artificial Intelligence 7, no. 1 (2020): 1-6. DOI: https://doi.org/10.36079/lamintang.ijai-0701.54**, (Scopus Indexed).**

11. Sharunya, S. R., Vijayalakshmi Desai, Meenakshi Singh, and M. Kusuma. "Survey on Early Detection of Alzhiemer's Disease Using Capsule Neural Network." International Journal of Artificial Intelligence 7, no. 1 (2020): 7-12. DOI: https://doi.org/10.36079/lamintang.ijai-0701.65**, (Scopus Indexed).**

12. Atef, Syed, Vishal Anand, Shruthi Venkatesh, Tejaswini Katey, and Kusuma Mohanchandra. "Prognosis Model of Hepatitis B Reactivation Using Decision Tree." In *International Conference on Information Management & Machine Intelligence*, pp. 371-376. Springer, Singapore, 2019. **DOI:** https://doi.org/10.1007/978-981-15-4936-6_40 , **(Scopus Indexed).**

13. Sindhura Rao, Ashwini S, and Kusuma Mohanchandra. 'Brain Controlled Chess Based on Virtual Reality Control for Paralyzed Patients.' International Journal of Engineering Research in Computer Science and Engineering. Vol 4, Issue 4, April 2017, ISSN (Online) 2394-2320, DOI: 01.1617/vol4/iss4/pid82074, http://ijercse.com/abstract.php?id=9519

14. Mohanchandra, Kusuma, and Snehanshu Saha. "Machine Learning Methods as a Test Bed for EEG Analysis in BCI Paradigms." In Cognitive Analytics: Concepts, Methodologies, Tools, and Applications, pp. 1577-1597. IGI Global, 2020. DOI: 10.4018/978-1-7998-2460-2.ch081. https://www.igi-global.com/chapter/machine-learning-methods-as-a-test-bed-for-eeg-analysis-in-bci-paradigms/252099

15. Kusuma Mohanchandra and Snehanshu Saha. (2016) 'A Communication Paradigm Using Subvocalized Speech: Translating Brain Signals into Speech', *Computational Intelligence and Complexity, Journal - Augmented Human Research*, Springer, 1(1), 3. Electronic ISSN 2365-4325, Print ISSN 2365-4317, DOI: https://doi.org/10.1007/s41133-016-0001-z https://link.springer.com/article/10.1007/s41133-016-0001-z**, (Scopus Indexed).**

16. Kusuma Mohanchandra, Snehanshu Saha, and Srikanta Murthy K. (2016) 'Evidence of Chaos in EEG signals: An application to BCI', Advances in Chaos Theory and Intelligent Control, Studies in Fuzziness and Soft Computing, Vol 337, pp. 609-625. Springer International Publishing, Switzerland 2016, Print ISBN: 978-3-319-30338-3, Online ISBN: 978-3-319-30340-6, DOI: https://doi.org/10.1007/978-3-319-30340-6_25. https://link.springer.com/chapter/10.1007/978-3-

319-30340-6_25**, (Scopus Indexed).**

17. Kusuma, Mohanchandra., Snehanshu, Saha., and Lingaraju, G. M. (2015) 'EEG Based Brain Computer Interface for Speech Communication: Principles and Applications', *Intelligent Systems Reference Library, Brain-Computer Interfaces: Current Trends and Applications,* Vol. 74, pp. 273-293, Springer-Verlag GmbH Berlin/Heidelberg. Online ISBN: 978-3-319-10978-7, DOI: https://doi.org/10.1007/978-3-319-10978-7_10. https://link.springer.com/chapter/10.1007/978-3-319-10978-7_10 (4k downloads) **, (Scopus Indexed).**

18. Mohanchandra, Kusuma., Snehanshu Saha, K. Srikanta Murthy, and G. M. Lingaraju. "Distinct adoption of k-nearest neighbour and support vector machine in classifying EEG signals of mental tasks." *International Journal of Intelligent Engineering Informatics,* Vol. 3, Inderscience,no.4(2015):313-329.
https://www.inderscienceonline.com/doi/abs/10.1504/IJIEI.2015.073064**, (Scopus Indexed).**

19. Mohanchandra, Kusuma, G. M. Lingaraju, Prashanth Kambli, and Vinay Krishnamurthy. "Using brain waves as new biometric feature for authenticating a computer user in real-time." *International Journal of Biometrics and Bioinformatics (IJBB)* 7, no. 1 (2013): 49.
https://pdfs.semanticscholar.org/5761/c892eecb34ad6e02d597afef3bd32fe6bfd9.pdf

20. G M Lingaraju, P.Nithiarasu, Kusuma M, et. al., "Real Time Interactive Steerable Scientific Visualization of Free Surface Flow in the context of Synthetic Vision", Special issue of Defense Science Journal, DESIDOC, **61(4),** July 2011, **pp. 299-305,** DOI: https://doi.org/10.14429/dsj.61.1115

International Conferences:

- Nagarathna, C. R., and M. Kusuma. "Ensemble Approach for Early Detection and Classification of Stages of Alzheimer's Disease." In Alzheimer's Association International Conference. ALZ, 2022. Volume 18, Issue S1, Alzheimer's Imaging Consortium, December 2022. https://doi.org/10.1002/alz.12854

- Nagarathna C. R and Kusuma M, "Comparative study of detection and classification of Alzheimer's disease using Hybrid model and CNN," 2021 IEEE International Conference on Disruptive Technologies for Multi-Disciplinary Research and Applications (CENTCON), 2021, pp. 43-46, https://ieeexplore.ieee.org/abstract/document/9688082 doi: 10.1109/CENTCON52345.2021.9688082.

- R. P. Patil, N. Shariff and M. Kusuma, "Brain-Computer Interface: Text Reader for Paralyzed Patients," 2019 1st International Conference on Advanced Technologies in Intelligent Control, Environment, Computing & Communication Engineering (ICATIECE), Bangalore, India, 2019, pp. 12-15, doi: 10.1109/ICATIECE45860.2019.9063797. https://ieeexplore.ieee.org/document/9063797 **, (Scopus Indexed).**

- Rakesh. S. Raj, D. S. Sanjay, M. Kusuma and S. Sampath, "Comparison of Support Vector Machine and Naïve Bayes Classifiers for Predicting Diabetes," 2019 1st International Conference on Advanced Technologies in Intelligent Control, Environment, Computing & Communication Engineering (ICATIECE), Bangalore, India, 2019, pp. 41-45, doi: 10.1109/ICATIECE45860.2019.9063792. https://ieeexplore.ieee.org/document/9063792**, (Scopus Indexed).**

- Kusuma Mohanchandra, Sindhura Rao, Ashwini S. (2017) 'Brain Controlled Chess Based on Virtual Reality Control for Paralyzed Patients', *International Conference on Recent Trends, Emerging Issues in Science, Engineering, Environment and Technology (ICRESEET-2017),* IFERP, Goa, India. 08-09, April, 2017, DOI: 01.1617/vol4iss1pid002515. http://ijercse.com/abstract.php?id=9519

- K. Mohanchandra, "Criminal forensic: An application to EEG," 2015 Recent and Emerging trends in Computer and Computational Sciences (RETCOMP), Bangalore, 2015, pp. 18-21, doi: 10.1109/RETCOMP.2015.7090798. https://ieeexplore.ieee.org/abstract/document/7090798**, (Scopus Indexed).**

- K. Mohanchandra, S. Saha and R. Deshmukh, "Twofold classification of motor imagery using common spatial pattern," 2014 IEEE International Conference on Contemporary Computing and

Informatics (IC3I), Mysore, 2014, pp. 434-439, doi: 10.1109/IC3I.2014.7019636. https://ieeexplore.ieee.org/abstract/document/7019636, **(Scopus Indexed).**

- Kusuma Mohanchandra, Snehanshu Saha. (2014) 'Optimal Channel Selection for Robust EEG Single-trial Analysis', *AASRI Conference on Circuit and Signal Processing (CSP 2014)*, London, UK, 21–22 June 2014, Elsevier, Vol *9*, 64-71, DOI: 10.1016/j.aasri.2014.09.012. https://www.sciencedirect.com/science/article/pii/S2212671614001127
- Kusuma M, Lingaraju G M, (2013) 'EEG Signal Classification of Mental Task using K Nearest Neighbor and Support Vector Machine', *IEEE International Conference on Human Computer Interactions ICHCI'13*, 23-24th Aug 2013, Chennai, India
- Kusuma M, et al., (2011) 'Thought Translation System: A Brain Computer Interfacing Application to Elicit the Needs of Physically Locked-in Patients', *International Conference on Innovative Science and Engineering Technology (ICISET-2011)*, 8th& 9th April 2011, Rajkot, Gujarat, ISBN: 978-81-906377-9-4.

National Conferences:
- Kusuma M, Lingaraju G M and Manjunath K. (2013) 'Classification of Single Trial EEG Signal using Wavelet Transform for Brain Computer Interface', *National Conference on Advances in Assistive and Mainstream Technologies for persons with special needs - AAMT2013*, Bhimavaram, Andra Pradesh, India, March 5-7, 2013
- G M Lingaraju, M Kusuma, et al., (2011) 'Person Authentication System Using Brain Waves as Biometric', *Conference on Evolutionary trends in Information Technology – CETIT 2011*, 20-22 May, VTU, Belgaum

Peer Reviews

- **Kuwait Journal of Science**, Kuwait University with impact factor 0.948 (InCites Journal Citation Reports), https://journalskuwait.org/kjs/index.php/KJS/home
- **Biomedical Engineering**, Joint Journal of the German Society for Biomedical Engineering in VDE and the Austrian and Swiss Societies for Biomedical Engineering and the German Society of Biomaterials, with Impact Factor 1.411, https://www.degruyter.com/journal/key/bmte/html
- **Neurosurgical Review,** Springer Nature, SNAPP, with impact factor 2.8. https://www.springer.com/journal/10143
- Reviewed book titled "Data Analytics, 1e" and "R for beginners, 1e" for McGraw Hill Education (India)

Professional Membership

Life Member of ISTE :	Membership Number: LM107840
IEEE Senior Member	Membership Number: 93271378

Scopus Author ID: 56490575300
ORCID id: https://orcid.org/0000-0001-5865-5729

Google Scholar ID:
https://scholar.google.com/citations?pli=1&authuser=1&user=bFqunuQAAAAJ **(H-Index – 8)**

Microsoft Researcher ID:
https://academic.microsoft.com/author/1581073637/publication?paperId=76319101

Certifications

- Completed 20 hrs of AWS Academy Graduate – AWS Academy Cloud Foundations course on 27.02.2021, DigitalBadge: https://www.youracclaim.com/go/7qno1VgX
- Completed 41.5 hrs of Machine Learning A-Z: Hands-on Python & R in Data Science online

course on Jan 2, 2020
- Completed 3.5 hrs of Hadoop Starter Kit online course on August 8, 2019

Conference Attended

- Successfully completed the 5-day online FDP on "Inculcating Universal Human Values in Technical Education" organized by All India Council for Technical Education(AICTE) from 3 May, 2021 to 7 May, 2021.
- Webinar on "India- A Leading Destination for FDIs ? " organized by the Department of MBA, Dayananda Sagar Academy of Technology and Management under IQAC & IIPC held on 28th May 2021.
- Two days virtual Young Professional Global Summit organized by IEEE Young Professionals Bangalore Section and IEEE Bangalore Section under the aegis of Bangalore Technology Conclave (BTC) on Nov 6th & 7th 2020.
- Two day virtual symposium, IEEE DeepTech.AI 2020 hosted by IEEE Computer Society Bangalore Chapter on 30-31 October 2020
- Participated in IEEE Bangalore Humanitarian Technology Conference (B-HTC) 2020, which was held virtually during October 08-10, 2020.
- IEEE Region 10 sponsored Conference Organizers Education Workshop (COEW) organized by IEEE Bangalore Section at Sterlings Mac Hotel, Bengaluru on 19th October 2019.
- Participated in "International Conference on Recent Trends, Emerging Issues in Science, Engineering, Environment and Technology (ICRESEET-2017)", IFERP, Goa, India. 08-09, April, 2017
- Participated in IEEE 2nd International Conference on Recent and Emerging trends in Computer and Computational Science (RETCOMP'15), Bangalore, India from 08-10, January, 2015.
- Participate in IEEE International Conference on Contemporary Computing and Informatics (IC3I), SJCE, Mysore, during November 27-29, 2014.
- Participated in IEEE International Conference on Human Computer Interactions (ICHCI'13), during August 23-24, 2013 at Saveetha School of Engineering, Chennai, India.
- Symposium on "Opportunities and Challenges for Women Scientists in India" at NIMHANS, Bangalore on November 03, 2012 organized by Women in World Neuroscience Committee of the International Brain Research Organization (IBRO)
- International Conference on Convergence of Science & Engineering in Education and Research on April 24th, 2010 at Dayananda Sagar College of Engineering, Bangalore.
- National Symposium on Spatial Information Technology at PESIT, Bangalore, June 9 – 10, 2007
- National Seminar on Communication and Network Security, CoNSec-07, MVJCE, Bangalore, April 07, 2007

Seminar Attended

- Webinar on "India- A Leading Destination for FDIs ? " organised by the Department of MBA, Dayananda Sagar Academy of Technology and Management under IQAC & IIPC held on 28th May 2021.
- One day webinar on Women rights conducted by Department of Physics, DSATM on 03.07.2020
- Two-Day National Webinar "Research Structuring, Statistical Insights & Publication Strategies" conducted by NFED on 25-26 July 2020.
- Training on "Artificial Neural Network & Fuzzy Logic in Image Processing and Pattern Recognition Applications", conducted by Scientific Computing Solutions during 27-28, September 2014 at Dhi Leadership Center, Bangalore.
- National Seminar on Communication and Network Security, CoNSec-07, MVJCE, Bangalore, April 07, 2007

Workshop Attended

- Two days virtual Young Professional Global Summit organized by IEEE Young Professionals Bangalore Section and IEEE Bangalore Section under the aegis of Bangalore Technology Conclave (BTC) on Nov 6th & 7th 2020.
- Two day virtual symposium, IEEE DeepTech.AI 2020 hosted by IEEE Computer Society Bangalore Chapter on 30-31 October 2020
- Innovation & IPR Workshop organised by IEEE TEMS Bangalore Chapter in collaboration with IEEE Bangalore Section, IEEE Young Professionals and IEEE Women in Engineering Bangalore Section at Hotel Sterling Mac, Bangalore on Dec 5, 2018.
- Half day event on "VMWare Academic Initiatives" conducted by CSI Bangalore Chapter in Collaboration with VMware IT academy on 3-Oct-2018 at VMWare Head Office, Bangalore
- Workshop on "Teaching Learning Methodology", held during 26th – 28th July 2018 at DSATM, Bangalore
- Workshop on "OBE Practices", from 18th – 20th June 2018 at DSATM, Bangalore
- Workshop on "New Model Curriculum for First Year BE – CBCS Detailed Syllabus (2018 – 19) as per Outcomes – Based Education (OBE) format including Course Outcomes (CO) and Bloom's Taxonomy" under TEQIP-1.3 on 14.05.2018 at MSRIT, Bangalore organized by VTU, Belagavi
- Attended Google's International Women Techmakers Summit in Bangalore on March 25th 2017 in celebration of International Women's Day
- 2nd Indian BCI Workshop conducted by Neuroelectrics SL and ITIE Knowledge Solutions during November 7-8, 2015 at Bangalore.
- Three day workshop on "Statistical Methods in Medical Research and Introduction o SPSS" conducted from July 9-11, 2015 at NIMHANS, Bangalore
- Workshop on "Learning Sparse Representations for Signal Processing", held during the period of February 20-22, 2015 at Indian Institute of Science, Bangalore.
- Participated in "ACM India Annual Event 2015", held on February 6th 2015 at BITS Pilani Goa Campus, Goa.
- Attended the "Inter Research Institute Student Seminar in Computer Science", held on February 5th 2015 at BITS Pilani Goa Campus, Goa.
- Training on "Artificial Neural Network & Fuzzy Logic in Image Processing and Pattern Recognition Applications", conducted by Scientific Computing Solutions during 27-28, September 2014 at Dhi Leadership Center, Bangalore.
- "Workshop on Linear Algebra – The theory and applications", conducted at PESIT – BSC, from 29th – 31st May 2014.
- "Certificate workshop on Electrophysiology", conducted by the Axxonet Brain Research Laboratory, Bangalore on 11th and 12th January 2014.
- "Matlab Based workshop on Biomedical Signal Processing", organized by Cardea Labs, New Delhi at DSCE, Bangalore from 29th – 31st October 2013.
- Two day workshop on "Non-linear Biomedical Signal Processing" at MSRIT, Bangalore under TEQIP II from 24th– 25thOctober 2013.
- Workshop on "Research Methodologies and Latex" organized by VTU e-Learning Centre at Vidyavardaka College of Engineering, Mysore on 21st& 22ndNovember, 2011.
- Workshop on "High Impact Teaching Skills", at Department of CSE, Dayananda Sagar College of Engineering on 29th& 30th July 2011.
- "PhD in Computer Science: A Perspective", one day workshop at IISc., Bangalore, July 2, 2010.
- NEN Orientation Program on June 19, 2010 organized by National Entrepreneurship Network (NEN) at Mount Carmel College, Bangalore
- Four-Day Workshop on Programming the Web and Software Architecture at RNSIT, Bangalore, July 27 -30, 2009.
- "Wireless Networks", one day workshop organized by BITES on 18th April 2009 at Global Academy of Technology, Bangalore.

- Workshop on CGI Programming & Web Design at Poojya Doddappa Appa College of Engineering, Gulbarga, Sep 24-26, 2005.

Personality Development Initiatives/Extracurricular Activities

1. Active participant in "**Touch the light**" project for the youth in India - regarding Development and Empowerment of Adolescents. A values awareness campaigning for the children under the age group of 11 to 16 especially studying in class 7th to 9th of the schools of various categories organized by Brahma Kumaris.
2. To add value to the above project, I have done, "PG Diploma in Value Education & Spirituality" from Annamalai University in Collaboration with Brahma Kumaris Education Wing, Rajyoga Education and Research Foundation, Mount Abu.
3. Participant in Health and De-addiction camps and fairs held by Brahma Kumaris to explain the mind-body-medicine paradigm, to create awareness about psychosomatic diseases and the role of Rajyoga in de-addiction of tobacco, alcohol and harmful drugs and to provide free health checkups.
4. Conduct Group Meditation for World Peace on the third Sunday of every month. Group meditation for world peace is held at the same time in all BK centers in the world. Group meditation programs are specially organized when calamities and disasters strike so that vibrations of peace can be created to support distressed people.
5. Public talks in order to help enhance people's quality of life through the application of spiritual, human and ethical values.
6. "Just-a-minute project" - encouraging people to take one minute pauses for peace to encourage peace of mind, inner strength and happiness.
7. Landmark Forum and Seminar Series (LFIA) (45 hours in 3 ½ days + 10 weekends) October/November 2010
8. NEN Orientation Program organized by National Entrepreneurship Network on June 19, 2010 at Mount Carmel College, Bangalore

Patents published

1. Published Indian Patent titled **"IOT BASED FINANCIAL MODELING BIG DATA ANALYTICS SYSTEM FOR USE IN FINANCIAL MANAGEMENT SECTOR"** with Application No.202241000486 A, Date of filing:05/01/2022, Publication Date : 21/01/2022

2. Published Indian patent titled "**SMART SOLE SHOE FOR POSTURE CORRECTION OF HUMAN BODY**" with Application No. 202241030374 A, Date of filing: 27/05/2022, Publication Date : 03/06/2022. RQ Filed and is under Examination.

3. Published Indian patent titled "**SELF-ADAPTIVE SYSTEM FOR ANALYSIS OF BRAIN SIGNAL OF ALZHEIMER PATIENT**" with Application No. 202241074674 A, Date of filing: 22/12/2022, Publication Date : 30/12/2022

Research Grants fetched with File No.

Received Grant for Organizing Conference (GOC) from AICTE an amount of Rs. 3,75,000/- (F.No.67-7 / IDC/ GOC/ POLICY-6 / 2021-22) Dated 30th May 2022

Student Project Funds Fetched with Grant No.

- "Brain Computer Interface for Emergency Virtual Voice", Funded By Karnataka State Council for Science and Technology **(KSCST): 44th Series of Student Project Programme 2020-21** Ref no : 44S_BE_0174.
- "Identification Of Gender Of Silkworm Using Image Processing", Funded By Karnataka State

Council for Science and Technology (KSCST): **43rd Series of Student Project Programme 2019-20** Ref no : 43S_BE_2990. Was **awarded as the "Best Project of the Year 2019-2020"** under 43rd Series Student Project Programme of KSCST. The project was carried out by Mr. A H Ravi Kiran, Mr. Kiran K G, Mr. M Shashank Reddy and Mr. M.Yashwanth Sai under the guidance of Dr. M Kusuma, Professor, Dept of ISE.

- "Diabetes Predictor Using Machine Learning Algorithm Over Cloud Infrastructure", Funded by IEEE Bangalore Section - Humanitarian Technology Project Funding 2020 (under the scheme **IEEE BS-SHTPF 2020**)
- "Child Safety Wearable Device using IoT sensors and Cloud Computing", Funded by IEEE Bangalore Section - Humanitarian Technology Project Funding 2020 (under the scheme **IEEE BS-SHTPF 2020**)

Awards

- Dr. M Kusuma has received "**Outstanding Educator & Scholar Award**" on 5th September 2020, in the 11th National Teachers' Day Awards 2020 powered by National Foundation for Entrepreneurship Development (NFED), Coimbatore, Tamil Nadu. This award is for her unflagging contribution to Teaching and Scholarly activities in the field of Computer & Information Sciences.
- Awarded 3rd Rank from University of Mysore for P G Diploma in System Analysis in the academic year 1990-1992

Lecture/Talks Delivered

- A talk on "**Sequential Quadrative Programming Algorithm**", AICTE Sponsored Six day Short Term Training Programme (STTP) on Modern Optimization Tools In Engineering Field-IV from 16.11.2020 to 21.11.2020 at SRM Valliammai Engineering College, Tamil Nadu.
- A lecture on "**Brain-Computer Interface**", on 5th Septemeber 2018 at Department of Information Science & Engineering, Global Academy of Technology, Bangalore.
- A talk on "**Brain Computer Interface - An Introduction and its applications**", Signal Processing Workshop, PESIT-South Campus on 08th August, 2014

Session Chair

- Session Chair for the International Conference on Disruptive Technologies for Multi-Disciplinary Research and Applications CENTCON-2021 conducted on 19-21 November 2021, Bengaluru organized by Dayananda Sagar Institution.
- Session Chair for the International Conference (Springer) on Evolutionary Computing and Mobile Sustainable Networks ICECMSN-2021 conducted on 28-29th Sept 2021 organized by RV Institute of Technology and Management, Bangalore, India
- Session chair at the "National Conference on Convergence of Science, Technology and Management- **NCCSTM-2018**" held on 3rd May 2018 at Dayananda Sagar Academy of Technology & Management, Bangalore.
- Third IEEE International Conference on Electrical, Electronics, Communication, Computer and Optimization Techniques (**ICEECCOT-2018**), GSSS Institute of Engineering and Technology for Women, Mysore, India, 14th-15th December 2018
- Publication Chair for International Conference on Advanced Technologies in Intelligent Control, Environment, Computing & Communication Engineering (**ICATIECE-2019**), Bangalore, India.

Academic Initiatives

- Coordinator for **Students Projects**
- Coordinator for **International and National Conferences**

- Coordinator for **FDP** and Training programs.
- Coordinator Funded Research Project
- **Coordinator,** Research Cell, DSATM.
- **NBA & NAAC** Department Coordinator
- **Publication Chair** for IEEE International Conference - ICATIECE-2019
- Review committee of CENTCON-2021
- **MoU** – ETHNUS CONSULTANCY SERVICES PVT. LTD., Bangalore, conducted internship and workshops under the MoU.
- Guided a research scholar from **Universiti Brunei Darussalam (UBD)** under the exchange program. Murugaiya Ramashini was at DSATM from Jan-2020 to May-2020 to conduct a collaborative research work on "iBird Project – AI Based Bird Identification".

Events Conducted

- Three Day FDP on Teaching Learning Methodology from 26. 07. 2018 to 28. 07. 2018 for Faculties of DSATM.
- Inaugural Program of Pre Incubation Center and Entrepreneur's Day Celebration on 25.08.2018.
- Technical Talk on Cloud Computing for VI Semester Students on 13.04.2019**.**
- Project Symposium – 2019 for VII Semester Students on 27.11.2019**.**
- National Conference on Convergence of Science, Technology and Management - NCCSTM-2020 for final year Students on 27.05.2020**.**
- Technical Session on "Automata Theory and its Applications" for V Semester Students on 06.11.2020**.**
- Project Symposium – 2020 for VII Semester Students on 19.12.2020.
- Worked as Convener for Research Conclave-2021 in association with IEEE Bangalore section & Research Centre, VTU at DSATM on 10.04.2021
- Webinar on Research Methodology, conducted under Research Cell, DSATM on 29.05.2021.
- National Conference on Convergence of Science, Technology and Management - NCCSTM-2021(E-Conference) for final year Students on 10.07.2021**.**
- Webinar on User Interface Design, In Association with CSI Bangalore Chapter, Bangalore and IQAC, DSATM for VIII semester students on 28.06.2021.
- Webinar on "Significance of Information Science and Engineering and Placement opportunities", in Association with IQAC, DSATM for VI semester students on 14.08.2021.
- Technical Session on "Automata Theory and its Applications" in Association with CSI Bangalore CHAPTER, Bangalore for V Semester Students on 18.12.2021**.**
- Project Symposium – 2022 for VII Semester Students on 22.01.2022.
- Program Committee at International Conference on Current Trends in Science, Engineering & Technology (ICCTSET-2022) on May 13th & 14th, 2022.

Faculty Development Activity/Workshops

- Successfully completed the 5-day online FDP on "Inculcating Universal Human Values in Technical Education" organized by All India Council for Technical Education(AICTE) from 3 May, 2021 to 7 May, 2021.
- Two days virtual Young Professional Global Summit organized by IEEE Young Professionals Bangalore Section and IEEE Bangalore Section under the aegis of Bangalore Technology Conclave (BTC) on Nov 6th & 7th 2020.
- Seven Days e-FDP on NAAC Accreditation, organized by Dnyansagar Institute of Management & Research, Pune in association with EduMentor, from July 21, 2020 to July 27, 2020.
- Five Day FDP(Online) on "IOT and Cloud Applications" from 06th to 10th July 2020 conducted by Dept of ISE, DSATM.
- Five Day FDP on Advanced Blockchain Technology from January 28th to February 1st, 2020 at the Department of Information Science & Engineering, Dayananda Sagar Academy of Technology &

- Management, Bangalore conducted by TrakInvest Singapore.
- Five Day Faculty Development Programme on "Big Data Analytics Using Hadoop" organized by Dept of ISE & Dept of CSE, DSATM in association with Innovations Labs, DSU & Computer Society of India, Bangalore Chapter from January 16th – 20th, 2019.
- Five Day FDP on Blockchain Technology, June 28th – July 2nd, 2019 at DSATM, Bangalore
- Two Day Faculty Enhancement Programme on "Intellectual Property Rights" jointly organized by DSATM-ISTE Chapter, DSATM-KSCST IPR Cell & Department of Mechanical Engineering, on 14th & 15th February 2019 at DSATM, Bangalore
- A Six Day FDP on Big Image Data Processing Using Machine Learning Algorithms, from 11th – 16th December 2017 at NIT Warangal
- Faculty Development Program on "Biosignal Processing" organized by MSRIT, Bangaloreunder TEQIP II from 21st to 24th January 2013.
- VTU-VGST Sponsored faculty development program on "Cognitive Science and Brain Computer Interface Technology" at MSRIT from 26th – 30th March 2012.
- International Conference on Convergence of Science & Engineering in Education and Research on April 24th, 2010 at Dayananda Sagar College of Engineering, Bangalore.
- Faculty Development Program conducted by Nasscom IT Workforce Development at Accenture, Sep 26-27, 2006
- Faculty Development Program conducted by Nasscom IT Workforce Development at Accenture, Nov 12-13, 2005

Ph.D Guide

Currently guiding 3 PhD students of Visvesvaraya Technological University, Karnataka, India

Contact Details

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