Winter 11-1-2022

Quality evaluation of Agricultural and Food Products by using Image Processing and Soft Computing Paradigm

Narendra VG

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Objective: To shoulder tough jobs as a challenge and wade into them with determination and enthusiasm thereby realizing my dream of becoming an indispensable part in the privileged team.

Summary:

Publication(s)	*Journal(s): **24*** SCOPUS indexed: **18** [***Q1(2),Q2(2),Q3(4),Q4(10)***] {*First Author(10), Corr. Author(3), Co-Author(5)*} Non-SCOPUS Indexed: **06**	*Conference(s):**33*** SCOPUS indexed: **12** Non-SCOPUS Indexed: **11**
Grant(s)	*Received*: Rs. **80.41 Lakhs** (Research) Rs. **0.93 Lakhs** (5 days AICTE-ATAL Online FDP)	Applied: **02** [2022]
Consultancy work	The team member to mentor students for the consultancy project '**Automation for managing country labels** (UTN: CG0918001)' from October 2018 to May 2019, Novartis Health Care Pvt. Ltd. on Application of Natural Language Processing in Healthcare with a funding grant of Rs 17.2 Lakhs.	
Patent(s)	Applied: **02**	Published:**01**
Citation(s)	Scopus(ID: 42761800100; Cited: 58; h-index:04)	Google Scholar (Cited: 317; h-index:07; i10 index: 5)
PhD Guide	Full Time: **01**	Part Time:**01**
Training Program Organized	**07** [Workshop(1), FDP(2), STP(3), and STTP(1)]	
Technical Talk/ Resource person	**12** [*Technical Talk delivered (6) and Resource person (6)]*	
Ph.D Thesis Evaluation	Evaluated: **04** [*VTU Belagavi (02) and Reva University Bangalore(02)*]	
Experience	**23+ Yrs (284 Months)**	

Professional Preparation:

Institution and University	*Major*	*Degree and Year*
MIT Manipal, MU Manipal	Computer Science and Engineering	Ph.D & 2017
JNNCE Shimoga, VTU Belgaum	Computer Science and Engineering	M.Tech. & 2001
STJIT Ranebennur, KU Dharwad	Computer Science and Engineering	B.E. & 1997

Appointments:

Position	*Institution*	*Dates*
Associate Professor-Senior Scale	MIT Manipal	*30/10/2017- present*
Associate Professor	MIT Manipal	*21/07/2017-29/10/2017*
Assistant Professor-Selection Grade	MIT Manipal	*26/10/2010 - 20/07/2017*
Assistant Professor-Senior Scale	MIT Manipal	*11/07/2008-25/10/2010*
Assistant Professor	GMIT Davangere	*01/02/2008-10/07/2008*
Assistant Professor	STJIT Ranebennur	*01/01/2006-31/01/2008*
Senior Lecturer	STJIT Ranebennur	*15/07/2005-31/12/2005*
Lecturer	BIET Davangere	*05/08/2004-14/07/2005*
Lecturer	STJIT Ranebennur	*01/04/1998-04/08/2004*

Publications:

i) Journals

[1] Narendra V G and Hareesh K S, *Prospects of computer vision automated grading and sorting systems in agricultural and food products for quality evaluation*, International Journal of Computer Application (0975-8887), Vol. 01, No. 4, pp. 1-12, 2010.

[2] Narendra V G and Hareesh K S, *Quality and Grading of Agricultural and Food Products by Computer Vision System- a Review*, International Journal of Computer Applications (0975 – 8887), Vol. 2, No.1, pp. 43-65, 2010.

[**3**]* Narendra V G and Hareesh KS, *Study and comparison of various image edge detection techniques used in quality inspection and evaluation of agricultural and food products by computer vision*, International Journal of Agricultural & Biology Engineering, Vol. 4, No.2, pp. 1-8, June 2011. [***Quartile: Q1***]

[**4]*** Narendra V G and Hareesh KS, An Intelligent *Cashew Kernels Classification using Colour Features*, International Journal of Earth Sciences and Engineering, ISSN: 0974–5904, Volume 4, Issue 7, pp. 409-414, 2011. [***Quartile: Q4***]

[5] Narendra V G and Hareesh KS, *Cashew Kernels Classification using Colour Features*, International Journal of Machine Intelligence, ISSN: 0975–2927 & E-ISSN: 0975–9166, Volume 3, Issue 2, pp. 52-57, 201.

[6] Narendra V G and Hareesh KS, *Cashew Kernels Classification using Texture Features*, International Journal of Machine Intelligence, ISSN: 0975–2927 & E-ISSN: 0975–9166, Volume 3, Issue 2, pp. 45-51, Sept. 2011.

[7] Narendra V G, Hareesh K S, *Computer Vision System to Estimate Cashew Kernel (White Wholes) Grade Colour and Geometric Parameters*, Agricultural Engineering (EJPAU) Vol.17, Issue 4, 2014, #5, ISSN 1505-0297, http://www.ejpau.media.pl/volume17/issue4/art-05.html.

[8] Narendra V G, Hareesh K S, 2015. *Intelligent Classification models for cashew kernel grades on the basis of Morphological, Colour and Texture features*, Journal of Agricultural Engineering and Biotechnology, Aug. 2015, Vol. 3(3), pp. 98-108.

[9] Narendra V G and Muhammad Abdorrazzaghi, *An Intelligent system for identification of Indian Lentil types using Artificial Neural Network (BPNN)*, IOSR Journal of Computer Engineering (IOSR-JCE), Volume 15, No. 5, pp. 54-60 2013.

[**10**]* Narendra V G and Hareesh K S. *Recognition and Classification of Whitewholes(WW) of cashew kernels using Artificial Neural Networks(ANN)*. Acta Scientiarum Agronomy, Vol. 38, No 02, pp.133-145, 2016. [***Quartile: Q1***]

[**11**]* Narendra V G and Priya Kamath. *Intelligent Classification models for Food products basis on Morphological,Color and Texture feature*. Acta Agronomica, Vol. 66, No 04, pp.1-21, 2017. [***Quartile: Q3***]

[**12**]* Narendra V G and Anitha S Kini. *An intelligent classification model for peanut's varieties by color and texture features*. International Journal of Engineering and Technology(UAE), Vol. 7, No 2.27, pp.250-254, 2018. [***Quartile: Q4***]

[**13**]* VG Narendra, Dashrathraj K Shetty. *White whole (WW) grades cashew kernel's classification using Artificial Neural Network (ANN).* International Journal of Engineering and Technology(UAE), Vol. 7, No 4, pp. 3442-3446, 2018. [***Quartile: Q4***]

[**14**]* S Divyashree, VG Narendra, Priya Kamath. *Intelligent systems to forgery image detection based on the edge characteristics using soft computing techniques.* International Journal of Engineering and Technology(UAE), Vol. 7, No 4, pp. 4493-4497, 2018. [***Quartile: Q4***]

[**15]***VG Narendra, Ancilla Juliet Pinto. *An Intelligent system to estimate and classify the agricul-tural and food products using coloring local features.* International Journal of Engineering and Technology(UAE), Vol. 7, No 4, pp. 4246-4249, 2018. *[**Quartile: Q4***]

[**16**]* Dasharathraj K Shetty, Dinesh Acharya, VG Narendra, M Namesh. *A cost-effective test bed for a computer vision system.* Journal of Advanced Research in Dynamical and Control Systems, Vol. 10, No. 13, pp. 2464-2469, 2018. [***Quartile: Q4***]

[17] Priya Kamath, VG Narendra. *Generation of Test Cases from Behavior Model in UML*. International Journal of Applied Engineering Research, Vol. 13, No. 17, pp. 13178-13187, 2018.

[**18**]* VG Narendra, G Amithkumar. *Intelligent system to estimate the morphological and surface color properties of almond's varieties and classify using soft computing techniques.* Journal of Advanced Research in Dynamical and Control Systems, Vol. 10, No. 13, pp. 2494-2500, 2019. [***Quartile: Q4***]

[**19**]* J Maha Kavya Sri, VG Narendra, Vidya Pai. *Implementing and testing of IoT technology in agriculture*. International Journal of Recent Technology and Engineering, Vol. 7, No. 6, pp. 848-852, 2019. [***Quartile: Q4***]

[**20**]* Rajashekar Kunabeva, P Manjunatha, VG Narendra. *Adaptive best mother wavelet based compressive sensing algorithm for energy efficient ECG signal compression in WBAN node.* International Journal of Innovative Technology and Exploring Engineering, Vol. 8, No. 10, pp. 685-692, 2019. [***Quartile: Q4***]

[**21**]* Dasharathraj K Shetty, Dinesh U Acharya, PJ Prajual, Namesh Malarout, VG Narendra. *Calculation of area and perimeter of guntur and byadagi chilli images-a fourier transformation.* International Journal of Recent Technology and Engineering, Vol. 8, No. 3, pp. 4816-4819, 2019. [***Quartile: Q4***]

[**22**]* VG Narendra, G Amithkumar. *An intelligent computer vision system for vegetables and fruits quality inspection using soft computing techniques.* Agricultural Engineering International: CIGR Journal, Vol. 21, No. 3, pp. 171-178, 2019. [***Quartile: Q3***]

[**23**]* Dasharathraj K. Shetty, U. Dinesh Acharya, V.G. Narendra, P.J. Prajual. *Intelligent System to Evaluate the Quality of DRC using Image Processing and then Categorize using Artificial Neural Network (ANN).* Indian Journal of Agricultural Research, (54):716-723,2020. [***Quartile: Q3***]

[**24**]* V. G. Narendra, M. Krishanamoorthi, G. Shivaprasad, V. G. Amitkumar, Priya Kamath. *Almond kernel variety identification and classification using decision tree,* Journal of Engineering Science and Technology, Vol. 16, No. 5, pp. 3923-3942, 2021. [***Quartile: Q2***]

[**25**]* Manoj T, Krishnamoorthi Makkithaya & Narendra V G. *A Blockchain Based Decentralized Identifiers for Entity Authentication in Electronic Health Records*, Cogent Engineering, Vol. 9, No. 1, pp. 1-23, 2022. [***Quartile: Q2***]

ii) Conferences

[1] Narendra V G and Hareesh K S, *Quality and Grading of Agricultural and Food Products by Computer Vision System- a Review*, International Conference on Computing Technologies 09 (ICONCT09), pp. 127-140, 2009.

[2] Narendra V G and Hareesh K S, *An Intelligent Cashew Kernels Classification using Colour features*, International Engineering Symposium 2011 (IES 2011), March 3-5, 2011 at Kumamoto University, Japan.

[3]* Narendra V G, Dasharathraj K Shetty and Dr. Hareesh K S, *Computer Vision System for Cashew Kernel Area Estimation*, International Conference on Computing Communication and Networking Technologies (ICCCNT 2012) July 26-28, 2012, SNS Engineering College, Coimbatore, Tamilnadu

[4] Narendra V G, Dasharathraj K Shetty and Hareesh K S, *Determination of Morphological Features of Cashew Kernel using Regression Modeling*, 3rd International Engineering Symposium 2013 (IES 2013), March 4-6, 2013, at Kumamoto University, Japan.

[5]* Narendra V G and Hareesh K S, *Intelligent cashew kernel classification model using shape features,* International Conference on Computer Science and Information Technology, (ICCSIT'2014), February 19-20, 2014, Kuala Lampur Malaysia.

[6] Narendra V G and Hareesh K S, *Recognition and Classification of White wholes (WW) grade Cashew kernel using Artificial Neural Networks*, International Journal of Food Science and Technology 50th celebration conference, February 17-19, 2015, Lincoln University, New Zealand.

[7] Narendra V G and Hareesh K S, *Intelligent Classification model for cashew kernel grades on the basis of Morphological, Color and Texture features*, International conference on Agriculture and Biology Science, July 25-28, 2015, Beijing, China.

[8] Narendra V G, *Intelligent Classification models for Food products basis on Morphological, Color and Texture features*, VBFoodNet Nov 24-26, 2015, Nha Trang University, Nha Trang, Vietnam.

[9] Narendra V G, N V Subba Reddy, Srikanth Prabhu and Priya Kamath, *Discriminating peanuts varieties using computer vision and machine learning Techniques*, SAE Dec 13-14 2016, Nong Lam University (NLU), Ho Chi Minh City, Vietnam.

[10] Narendra V G, N V Subba Reddy and Srikanth Prabhu, *Quality Inspection of vegetables and fruits using Intelligent Computer Vision System*, SAE Dec 13-14 2016, Nong Lam University (NLU), Ho Chi Minh City, Vietnam.

[11] Narendra V G, N V Subba Reddy and Srikanth Prabhu, *An Intelligent system to estimate and classify the agricultural and food products using coloring local features*, SAE Dec 13-14 2016, Nong Lam University (NLU), Ho Chi Minh City, Vietnam.

[12] Narendra V G, N V Subba Reddy and Srikanth Prabhu, *Intelligent system to estimate the geometric and surface color properties and discriminate almonds varieties using computer vision and machine learning techniques*, Computer applications based on Algebra, July 1-4, 2017, MIT Manipal, Manipal University, India

[13] Narendra V G, N V Subba Reddy and Srikanth Prabhu, *Intelligent system to predict ripening of Organic Bananas (Dwarf Cavendish) using color features*, Computer applications based on Algebra, July 1-4, 2017, MIT Manipal, Manipal University, India

[14] Narendra V G, N V Subba Reddy, Srikanth Prabhu and D Mahindhar Reddy, *Intelligent classification models for Peanut's varieties on the basis of color and Texture features*, ICASET July 10-12, 2017, MIT Manipal, Manipal University, India

[15] Narendra V G and Srikanth Prabhu *Intelligent Computer Vision System for vegetables and fruit quality inspection using soft computing techniques*, VBFoodNet 2017 International conference Safety and Quality in the Food chain, 12-14 Nov. 2017, Nong Lam University, Ho Chi Minh City, Vietnam

[16] Narendra V G and Srikanth Prabhu, *Intelligent system to estimate the geometric and surface color properties to discrinate almonds' varieties using soft computing Techniques*, VBFoodNet 2017 International conference Safety and Quality in the Food chain, 12-14 Nov. 2017, Nong Lam University, Ho Chi Minh City, Vietnam

[17] VG Narendra, G Amithkumar. *Intelligent system to estimate the morphological and surface color properties of almond's varieties and classify using Soft computing Techniques.* ICETESTM-18 International conference on Emerging Trends on Enginnering Science, Technology and Management, 29th – 30th Nov., 2018 Aditya

Institute of Technology and Management (AITAM), Tekkalli, Srikakulam, Andhra Pradesh.

[18] VG Narendra, G Amithkumar. *An intelligent Computer Vision System for Vegetables and Fruits quality inspection using Morphologial Color and Texture features.* FCFS-18 International conference on Framework Convention for Engineering Sciences, 25th – 26th Nov.,2018 Bali, Indonesia.

[19] Dasharathraj K Shetty, Dinesh Acharya, VG Narendra, M Namesh. *A cost-effective test bed for a computer vision system.* ICETESTM-18 International conference on Emerging Trends on Enginnering Science, Technology and Management, 29th – 30th Nov., 2018 Aditya Institute of Technology and Management (AITAM), Tekkalli, Srikakulam, Andhra Pradesh.

[20] Dasharathraj K Shetty, Dinesh Acharya, VG Narendra, Prajual P J. *Intelligent System to evaluate the quality of dry red chilies using image processing and then categorize using Artificial Neural Network (ANN).* ICETESTM-18 International conference on Emerging Trends on Enginnering Science, Technology and Management, 29th – 30th Nov., 2018 Aditya Institute of Technology and Management (AITAM), Tekkalli, Srikakulam, Andhra Pradesh.

[21] J Maha Kavya Sri, VG Narendra, Vidya Pai. *Implementing and testing of IoT technology in agriculture*. ICRTA-18 International Conference on Recent Trends in Automation, 15th-16th Nov. 2018, Vasireddy Venkatadri Institute of Technology (VVIT), Guntur, Andhra Pradesh.

[22]* Tomar S.S., Narendra V.G. (2019) Python-Based Fuzzy Classifier for Cashew Kernels. In: Bansal J., Das K., Nagar A., Deep K., Ojha A. (eds) Soft Computing for Problem Solving. Advances in Intelligent Systems and Computing, Vol 816. pp. 978-981, Springer, Singapore. https://doi.org/10.1007/978-981-13-1592-3_28

[23]* Namrata Varad Mhapne, SV Harish, Anita S Kini, VG Narendra. *A Comparative Study to find an Effective Image Segmentation Technique using Clustering to obtain the Defective Portion of an Apple.* 2019 International Conference on Automation, Computational and Technology Management (ICACTM), pp. 304-309, 24th-26th April 2019,London, United Kingdom IEEE. https://doi.org/10.1109/ICACTM.2019.8776751.

[24]* J. Maha Kavya Sri, V.G. Narendra, V. Pai, *Implementing and Testing of Internet of Things (IoT) Technology in Agriculture and Compare the Application Layer Protocols: Message Queuing Telemetry Transport (MQTT) and Hyper Text Transport Protocol (HTTP)*, in: Commun. Comput. Inf. Sci., Springer, 2019: pp.320–333. https://doi.org/10.1007/978-981-15-0111-1_29.

[25]* Narendra V.G., Govardhan Hegde K. (2019) *Intelligent System to Classify Peanuts Varieties Using K-Nearest Neighbors (K-NN) and Support Vector Machine (SVM).* In: Luhach A., Jat D., Hawari K., Gao XZ., Lingras P. (eds) Advanced Informatics for Computing Research. ICAICR 2019. Communications in Computer and Information Science, Vol 1075, pp. 359-368. Springer, Singapore. https://doi.org/10.1007/978-981-15-0108-1_33

[26]* Narendra, V.G., Govardhan Hegde, K., 2019. *Intelligent system to evaluate the quality of orange, lemon, sweet lime and tomato using back-propagation neural-network (BPNN) and probabilistic neural network (PNN).* In: Luhach A., Jat D., Hawari K., Gao XZ., Lingras P. (eds) Advanced Informatics for Computing

Research. ICAICR 2019. Communications in Computer and Information Science, Vol 1075, pp. 369-382. Springer, Singapore. https://doi.org/10.1007/978-981-15-0108-1_34

[27]* Narendra V G. *Defects detection in Fruits and vegetables using image processing and soft computing techniques.* 6th International Conference on Harmony Search, Soft Computing and Applications - ICHSA 2020, 16th-17th July, 2020, Istanbul, Turkey

[28]* Narendra V G., Shiva Prasad G. *A framework for Quality evaluation of Edible nuts using computer vision and soft computing techniques*. 6th International Conference on Harmony Search, Soft Computing and Applications - ICHSA 2020, 16th-17th July, 2020, Istanbul, Turkey

[29] Namrata Marium Chacko, Narendra V G, and Mamatha Balachandra, "A Conceptual BIoT Framework for Theft Protection and Marketing of Harvested Coconuts in Local Farms." Interdisciplinary Conference on Healthcare and Technical Research-2021, 11th – 13th November, 2021, MAHE, Manipal, INDIA.

[30] Manoj T, Krishnamoorthi Makkithaya, Narendra V G, "A Self Sovereign Identity Based Verifiable Credentials for COVID 19 Vaccine/Test Records" in Interdisciplinary Conference on Healthcare and Technical Research, 2021 11th – 13th November, 2021, MAHE, Manipal, INDIA.

[31]* M. Raj and Narendra V G, "Deep Neural Network approach for navigation of Autonomous Vehicles," 2021 6th International Conference for Convergence in Technology (I2CT), 2021, pp. 1-4, doi: 10.1109/I2CT51068.2021.9418189

[32]* Namrata Marium Chacko, Narendra V G, Mamatha Balachandra, and Shoibolina Kaushik "Blockchain Framework for Agro Financing of Farmers in South India" .5th International Conference on "Emerging Technologies in Computer Engineering: Cognitive Computing and Intelligent IoT" (ICETCE-2022), 4th - 5th February, 2022, SKIT, Jaipur, INDIA

[33]* Manoj T, Krishnamoorthi Makkithaya, Narendra V G, "A Federated Learning-Based Crop Yield Prediction for Agricultural Production Risk Management" in International Conference on Electrical, Electronics and Computer Engineering, IEEE DELCON-2022, 11th - 13th February, 2022, Netaji Subhas University of Technology, New Delhi, INDIA.

*SCOPUS indexed conference(s)/Journal(s)

Grants Received

i) Research

Project Title: ***Implementation of Indian Languages to Indian Languages Machine Translation***

Grants-in-aid from Ministry of Electronics and Information Technology (MeitY) for a period of 3 years of amount (in Rs) 80.41 lakhs.

ii) FDP

Title: Blockchain Technologies and its Applications

Amount Rs. 0.93 lakhs received for a FIVE days [6-10, Dec., 2021] AICTE Training and Learning (ATAL) Academy Online FDP

Consultancy work

The team member to mentor students for the consultancy project '***Automation for managing country labels*** (UTN: CG0918001)' from October 2018 to May 2019, Novartis Health Care Pvt. Ltd. on Application of Natural Language Processing in Healthcare with a funding grant of Rs. 17.2 Lakhs.

Patent

Applied: 1. ***ML based Future Prediction of COVID-19 Vaccine Trends Using a Voting Classifier*** [Application number: **202111053390** dated 19/11/2021] submitted at The Controller of Patents, The Patent Office, New Delhi, India

2. ***A Machine Learning based system for Agricultural products to predict quality and thereof*** [Application number: **202111055367** dated 30/11/2021] submitted at The Controller of Patents, The Patent Office, New Delhi, India

Published:1. ***ML based Future Prediction of COVID-19 Vaccine Trends Using a Voting Classifier*** [Application number: **202111053390**, The Patent Office Journal No. **49/2021** Dated 03/12/2021, 57668]

PhD Guide

Sl. No.	Name of the Research Scholar	Reg. No	Full Time/ Part Time	Date of Registration	University Name	Guide/ Co-Guide
1	Manoj T	200900141	Full Time	17/2/2021	MAHE	Co-guide
2	Chako Namrata Marrium	200900177	Full Time	31/7/2021	MAHE	Guide

Training Program Organized

1. Two days Summer Training Program (STP) on ***Python Programming*** from 3-4 June, 2019, MAHE-SRF, Manipal, India

2. Two days Faculty Development Program (FDP) on ***Open Source Technologies*** from 15-16 July, 2019, CSE, MIT, MAHE, Manipal, India

3. One Day ***Python workshop for Teachers*** on 22 June, 2019, CSE, MIT, MAHE, Manipal-India.

4. Six Days AICTE-Short Term training Program (STTP) *on* ***Design of Knowledge-based Systems using Artificial Intelligence and Machine Learning models: In the context of Agricultural and Food products (slot-1)*** 7-12 Sep, 2020, CSE, MIT, MAHE, Manipal, India

5. Five Days STP on ***Python*** **Programming** from 14-18 Sep., 2020, MAHE-SRF, Manipal, India.

6. Five Days STP on ***Python Programming*** from 23-27 Aug., 2021, MAHE-SRF, Manipal, India.

7. AICTE Training and Learning (ATAL) Academy sponsored Five days online FDP on *"**BLOCKCHAIN TECHNOLOGIES AND ITS APPLICATIONS**"* from 6-10 December, 2021, CSE, MIT, MAHE, Manipal, India.

Technical Talk /Resource person

1. Presented a Technical talk on ***Computer Vision and Applications*** at STJIT Ranebennur, on 22nd Feb., 2012

2. Resource person for Two days workshop on ***Linux for Engineers*** held at Yenepoya Institute of Technology, Moodbidri, on 03-04, May 2017.

3. Resource person for Two days on ***Python Programming*** from 3-4 June, 2019, MAHE-SRF, Manipal, India.

4. Presented a Technical talk on ***Pattern Recognition Applications in quality evaluation and classification of Agriculture and food products*** on 13.12.2019, at Two Weeks Faculty Development Program (FDP) on Recent Trends in Machine Learning and Pattern Recognition from 11 - 24 December, 2019 sponsored by All India Council for Technical Education (AICTE), held at Dept. of CSE, MIT, MAHE, Manipal, India.

5. Resource person for Two days wokshop on ***Image Processing and its Applications*** on 28-29 Feb., 2020 organized by CSI-SJEC Student Chapter in the association with the Dept. of CSE at St. Joseph Engineering College, Mangaluru, India.

6. Resource person for Five days on ***Python Programming*** from 14-18 Sep., 2020, MAHE-SRF, Manipal, India.

7. Resource person for Six Days AICTE-STTP on ***Python Basics and Data Structures*** in Design of Knowledge-based Systems using Artificial Intelligence and Machine Learning models: In the context of Agricultural and Food products (slot-1) 7-12 Sept, 2020, CSE, MIT, MAHE, Manipal, India.

8. Presented a Technical talk on ***Cashew kernels classification using image processing and machine learning techniques*** at Six Days AICTE-STTP on Design of Knowledge-based Systems using Artificial Intelligence and Machine Learning models: In the context of Agricultural and Food products (slot-3) 12-17 Oct, 2020, CSE, MIT, MAHE, Manipal, India.

9. Presented a Technical talk on ***Detecting Fake News using Machine Learning*** on 20 Nov., 2020 at AICTE Sponsored SIX days Short Term Training Program (SERIES -1) on Natural Language Processing from 16-21 Nov., 2020 Department of Information And Communication Technology, MIT, MAHE, Manipal, India.

10. Resource person for Five days on ***Python Programming*** from 23-27 Aug., 2021, MAHE-SRF, Manipal, India.

11. Presented a Technical talk on ***Machine vision systems in quality and safety*** at Technical Session 3: Innovations in Food Safety and Quality on 15th Nov., 2021, XV Agricultural Science Congress-2021, Banaras Hindu University, Varanasi, India

12. Presented a Technical talk on ***Cashew Kernels Classification using Image Processing and Machine Learning Techniques*** on 07/12/2021**,** in Six days Faculty Development Program on "Recent Trends in Machine Learning and Pattern Recognition"

from 6-11 Nov.,2021, Department of Electronics and Communication Engineering, G M Institute of Technology, Davanagere, Karnataka, India.

Thesis Evaluated

Sl No.	Thesis Title	Reg No	University
01	Study on Automated Method of Bacteria Image Identification and Classification Using Image Analysis	4NM14PEM01	Visvesvaraya Technological University (VTU) Belgaum, Karnataka
02	Performance Trade off in Channel Capacity and QOS Based on Resources Allocation Scheduling Policy in LTE Advanced with Carrier Aggregation	1VE16PEJ03	Visvesvaraya Technological University (VTU) Belgaum, Karnataka
03	Development of Sclera Biometric System using Machine Learning approach	R15PEC06	REVA University, Yelahanka, Bengaluru
04	Investigations and Design of Predictive Analytical Models and Algorithms for Agricultural Applications	R14PCS12	REVA University, Yelahanka, Bengaluru

Countries visited:

Countries visited includes Japan (2013), Thailand (2013), Malaysia (2014), New Zealand (2015), China (2015), Vietnam (2015, 2016 and 2017) and United Kingdom (2018)

Research Paper Reviewer:

i) Food Research International, Elsevier (2014)
ii) Journal of Food Measurement and Characterization, Springer (2015, 2016, 2017, 2018,2019)
iii) Journal of Postharvest Biology and Technology, Elsevier (2017)
(iv) IEEE Internet of Things Journal (2019)
(v) Journal of Network and Computer Applications (2020)
(vi) Trends in Food Science & Technology (2020)
(vii) IEEE Access (2021)

Research Interests:

Research interests includes Computer Graphics, Algorithms, Image Processing, Computer Vision, Artificial Intelligence and Soft computing Techniques

Technical Skills:

Programming Languages: C, C++, OpenGL, Python, MATLAB
GUI/Packages: Weka, Tcl/Tk, MySQL,SQLite
Operating System: Windows, Unix/Linux

Membership of Professional Bodies:

- Life time member of Indian Society for Technical Education. (LM-43283)
- Member of International Innovative Scientific & Research Organization (IISRO), (Membership ID: 2014 - 1240).

- Member of International Association of Computer Science and Information Technology (IACSIT), Singpore (Member NO. : 80340172).

Other responsibilities:

Institution Level

- Worked as a Faculty Advisor [ISTE] in STJIT Ranebennur (January 2006-December 2007)
- Worked in a Teacher Guardian scheme at MIT Manipal during 2008- 2012, 2016

Department Level

- Worked as Project coordinator at CSE Department, STJIT Ranebennur during 2006-2007.
- Worked as a Time Table Committee member at CS&E Department, MIT Manipal during 2009-2012.
- Worked as a Time Table Coordinator at CS&E Department, MIT Manipal during 2012-2013.
- Worked as a Faculty advisor for LINUX Group at CS&E Department, MIT Manipal during 2008-2010.
- Worked as a Class Chair Person for Ist Sem M. Tech., at CS&E Department during 2009.
- Worked as a Department Library In-charge from 2013-2016.
- Working as a Research Lab In-charge since from October 2014
- Worked as a Time Table Coordinator at CS&E Department, MIT Manipal during 2017-2019
- Worked as a Class Chair Person for 3rd Sem B. Tech., at CS&E Department during 2020 & 2021
- Working as a NBA core committee member at CSE department
- Working as a IET coordinator for PG at CSE department

Academic matters

- Received a certification of Appreciation for Project guidance of IAESTE IndiaMIT students: INTERNATIONAL EXCHANGE 2010 from Manipal University.
- Chaired oral Session 2: Food Science at Agricultural and Biological Sciences (ABS2015), Beijing China, July 25-28, 2015.
- Session chair in the 1st International Conference on Advances in Information, Computing and Trends in Data Engineering (ICAICDE-2020) organized by the Department of Information Science & Engineering, Sri Venkateshwara College of Engineering, Bengaluru on 11th December 2020.

Workshops Attended:

1. FEP on Python Programming and Database concepts held at School of Engg and Technology, Jain University, Bangalore, June 20-25, 2016
2. FDTP on Soft Computing Techniques for the Engineering Research and its Applications (SCTERA'15) held at SREC Coimbatore, Tamilnadu, 8-21 June,2015

3. Technical Seminar on Recent Trends in Patteren Recognition and Machine learning Techniques held at MSEC Sivakasi Tamilnadu, September 19-20, 2014.
4. National Seminar on Mathematical Modelling and Scientific Computation held at KEC Perundurai Erode Tamilnadu, August 30-31, 2012.
5. National Workshop on Statistical Analysis Using "R" held at Dept. of Statistics, Manipal University, May 26-27, 2012.
6. National Workshop on Recent Trends in Web Technologies and Development held at MITE Moodabidri, March 21-22, 2012.
7. National Seminar and workshop on Digital Image Processing and Applications held at BIT B'lore, March 1-3, 2012.
8. National Workshop on Intellectual Property Rights(IPR)-Practices and Management held at MIT Manipal, Feb. 17-18, 2012.
9. FDP on Speech and Image Processing held at SIT Tumkur, 20-24 Mar. 2010.
10. FDP on DB2 organized by IBM held at MIT Manipal, 4-6 Mar. 2010.
11. TEQIP on C# .NET and Web Technologies held at NMAM Institute of Technology, Nitte, 18-20 Aug. 2009.
12. FDP on Design and Development Web Applications using .NET 2.0 held at MIT Manipal, 23-24 Jan. 2009.
13. STTP on Signal, Image, and Speech Processing held at NITK Surathkal, 8-13 Sept. 2008.
14. FDP on Cluster Computing held at AIT Bangalore, 6-10 Aug. 2007.
15. State Level Workshop on Intelligent Systems held at VVCE Mysore, 12-14 May 2006.
16. TEQIP on Image Processing for Beginners held at PDACE Gulbarga, 21-22 April 2006.
17. QIP on Electronic Commerce held at IISC Bangalore, 13 – 17 Feb. 2006.
18. TEQIP on CGI Programming and Web Design held at PDACE Gulbarga, 24-26 Sept. 2005.
19. FDP on Quality of Service on Internet held at BIET Davangere, 4-9 July 2005.