BVRIT HYDERABAD College of Engineering for Women

Bachupally, Hyderabad-500090

Department of Computer Science & Engineering

Centre of Excellence for Data Science in Healthcare

Co-Ordinator details
Name : Dr. Sreevani Maddukuri
Designation : Professor & HoD
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Mission:

To pioneer the advancement of data science in healthcare by harnessing cutting-edge technologies and methodologies to drive innovation, enhance patient outcomes, and optimize healthcare delivery.

Vision:

To establish the Center of Excellence in Data Science in Healthcare as a global leader in leveraging data-driven insights to revolutionize healthcare practices, improve population health management, and ultimately save lives.

Objectives:

- To establish an outstanding data science program in healthcare.

- To facilitate faculty, student collaboration on healthcare real-world projects and develop essential data science skills.

- To actively share findings through publications, conferences, and industry engagement, fostering knowledge transfer and accelerating advancements in healthcare data science.

Faculty Team

S.No.	Name	Designation	Qualification	Specialization
1.	Dr. G.Naga Satish	Professor	Ph.D	DS
2.	Dr. Nara Sreekanth	Associate Professor	Ph.D	Image Processing, IoT
3.	Dr. Reya Sharma	Assistant Professor	Ph.D	Deep Learning, Machine Learning, Data Science.
	Dr. S Ashok	Assistant Professor	Ph.D	Deep Learning, Machine Learning

Infrastructure

S.No.	Name of the Equipment	Unit Cost	Quantity
1.	Ultra Super Server SYS62U-TNR Intex Xeon Silver 4310, Processor 12-Core 2.1Ghz, 18MB Cache(120W) 128 GB RAM DDR4, 2*960 GB SSD, GPU KIT NVIDIA RTX A6 000	Rs. 11,02,500/-	1
2.	IBM Server X3650M4 / 8GB RAM, 3* 600GB HDD	Rs. 2,55,164/-	1
3.	Dell Power Edge R710 / 256 GB, 4TBSATA HDD	Rs. 1,82,009/-	1
4.	Dell Power Edge Rack Server R540 / 16GB RAM, 2TB HDD Sr.No. 6XBPZ23	Rs. 2,40,900/-	1
5.	Internet Bandwidth - 1420 MBps		

List of Open-Source Software

S.No.	Name of Software
1.	R
2.	Python
3.	Jupyter Notebook
4.	Apache Hadoop,Spark,Flink
5.	Tableau
6.	Weka

MOU's :

1. MOU signed with AIMER for collaborative projects on computer vision in medical applications.

2. MOU signed with ARAI, Pune for collaborative work related to semiconductor applications and computer vision.

List of Projects

S.No.	Title	Specialization	Faculty mentor	Academic Year (Keep Latest first)
1.	Melanoma detection using Deep Learning	Deep Learning	Dr. Venkatesh B	2023-24
2.	Glaucoma Detection using Deep Learning	Deep Learning	Ms. S Vidyullatha	2023-24
3.	Cardiovascular disease detection using Electrocardiogram(ECG) and Machine Learning	Machine Learning	Mr. R Dileep Kumar	2023-24
4.	Breast Cancer Detection using Deep Learning	Deep Learning	Ms. M Lakshmi Prasudha	2023-24
5.	Skin disease detection using Deep Learning	Deep Learning	Mr. R Dileep Kumar	2023-24
6.	Polycystic Ovary Syndrome Detection using Deep Learning	Deep Learning	Dr. Reya Sharma	2023-24
7.	Retina 3D Perception Based on Visual Light Field Image using Deep-Learning Framework	Deep Learning	Ms. M Shanmuga Sundari	2022-23
8.	Diabetes Prediction Using Machine Learning	Machine Learning	Ms. K Hemalatha	2022-23

9.	Human Disease Prediction Using Symptoms	Machine Learning	Ms. S Sowmya	2022-23
10.	Pulmonary and Lungs Nodule Classification Using Ensemble Learning techniques	Machine Learning	Ms. A Kranthi	2022-23

List of Patents

1. Published a patent " Design of Bluetooth-Controlled Motorized Abdomen Scan Equipment" with Application Number : 202341037540 on 18-08-2023.

2. Published a patent " A System and Apparatus for Advanced Enhanced Neural Style Transfer (Nst) Method Leveraging Resnet Architecture For High Fidelity Image Synthesis " with Application Number: 202341066332 on 20-10-2023.

3. Published a patent " An Augmented Reality And IoT Based Covid Patient Monitoring System " with Application Number:202141053540 on 10-12-2021.

4. Published a patent " A Portable Medicine Identification And Alerting System For Visually Challenged People And Geriatrics " with Application Number: 202141011491 on 26-03-2021.

5. Published a patent "Blockchain Based System for Biomedical Documents Towards Data Integrity, Non-Repudiation and Digital Forensics", Application Number: 202041040619, Date of Filing: 25-09-2020.

6. Published a patent "Smart Clothing for Patients", Application Number: 201641024774, Date of Filing: 26-01-2018.

List of Publications

S.No.	Title	Name of the Journal/Conf/Book/Book Chapter	Academic year (Keep Latest first)	DoI / ISSN / ISBN	Web Link	SDG
1.	Web application based Diabetes prediction using Machine Learning	2023 International Conference on Advances in Computing, Communication and Applied Informatics (ACCAI)	2023	https://doi.org/10.1109/ACCAI58221.2023.10200323/	https://ieeexplore.ieee.org/abstract/document/10200323/authors#authors	3
2.	Ensemble Framework of Artificial immune system based on Network Intrusion Detection System for Network Security Sustainability	E3S Web of Conferences	2023	https://doi.org/10.1051/e3sconf/202343001070	https://www.e3s-conferences.org/articles/e3sconf/abs/2023/67/e3sconf_icmpc2023_01070/e3sconf_icmpc2023_01070.html	3
3.	A Stable Method for Brain Tumor Prediction in Magnetic Resonance Images using Finetuned XceptionNet	International Journal of Computing and Digital Systems	2023	http://dx.doi.org/10.12785/ijcds/150106	https://journal.uob.edu.bh/bitstream/handle/123456789/5218/IJCDS150106_1570910069.pdf?sequence=3&isAllowed=y	3
4.	Leveraging Bio-Maximum Inverse Rank Method for Iris and palm recognition	International Journal of Biometrics	2022	https://doi.org/10.1504/ijbm.2022.124681	https://www.inderscience.com/info/inarticle.php?artid=124681	3
5.	Novel Coronavirus Progression Analysis using Time Series Forecasting	Algorithms for Intelligent Systems, Springer (Proceedings of ICACECS 2021)	2022	978-981-16-7388-7	https://link.springer.com/chapter/10.1007/978-981-16-7389-4_11	3
6.	IoT-based System for Health Monitoring of Arrhythmia Patients Using Machine Learning	Advances in Computers book series (AISC) of Springer, Singapore	2022	978-981-16-7087-9	https://link.springer.com/chapter/10.1007/978-981-16-7088-6_25	3

7.	Detection of Diabetic Retinopathy (DR) Severity from Fundus Photographs: An Ensemble Approach Using Weighted Average	Arabian Journal for Science and Engineering	2022		https://link.springer.com/article/10.1007/s13369-021-06381-1	3
8.	An Analysis on Classification Models to Predict Possibility for Type 2 Diabetes of a Patient	Lecture Notes on Data Engineering and Communications Technologies, Springer	2022	978-981-16-7166-1	https://link.springer.com/chapter/10.1007/978-981-16-7167-8_14	3
9.	Application Comparative Analysis on Machine Learning Algorithms In Healthcare Industry	INTERNATIONAL CONFERENCE on DIGITAL TRANSFORMATION & TRANSITION (ICDTT-21)	2021	0972-07266	UGC	3
10	Classification of Brain Tumour Types on Magnetic Resonance Images Using Hybrid Deep Learning Approach with Radial Basis Function Neural Network	Recent Advances in Mathematical Research and Computer Science	2022	https://doi.org/10.9734/bpi/ramrcs/v7/1579B		3
11	Prediction of COVID 19- Chest Image Classification and Detection using RELM Classifier in Machine Learning	8th International Conference on Advanced Computing and Communication Systems (ICACCS)	2022	https://doi.org/10.1109/ICACCS54159.2022.9785131	https://ieeexplore.ieee.org/document/9785131	3

12	Evaluating performance on Covid-19 tweet Sentiment Analysis outbreak using Support Vector Machine	Smart Intelligent Computing and Applications	2022	978-981-16-9669-5 https://doi.org/10.1007/978-981-16-9669-5_14	https://link.springer.com/chapter/10.1007/978-981-16-9669-5_14	3
13	Analysis of Heart Disease Data Using K-Means Clustering Algorithm in Orange Tool	Intelligent Manufacturing and Energy Sustainability	2021	978-981-33-4443-3	https://link.springer.com/chapter/10.1007/978-981-33-4443-3_40	3
14	Analysis of Covid Confirmed and Death Cases Using Different ML Algorithms	Intelligent Systems	2021	978-981-33-6081-5	https://link.springer.com/chapter/10.1007%2F978-981-33-6081-5_7	3
15	The preeminence of Fog Computing and IoT enabled Cloud Systems in Health care	Third International Conference on Intelligent Communication Technologies and Virtual Mobile Networks (ICICV 2021)	2021	978-0-7381-1182-7		3
16	Multi-Stage Classification Technique for Breast Cancer Detection in Histopathology Images using Deep Learning	European Journal of Molecular & Clinical Medicine	2021	2515-8260	https://ejmcm.com/article_1807_907aa76c51e9f1ce3b404526643a5fa2.pdf	3
17	Performance Analysis of Various Deep Learning Algorithms in COVID-19 Detection with Chest X-RAY images.	High Technology Letters	2021	1006-6749	http://www.gjstx-e.cn/gallery/107-sep2020.pdf	3

18	Segmentation and classification of brain tumor from magnetic resonance images using k-means algorithm and hybrid pso-wca based radial basis function neural network	International Journal of Advanced Trends in Computer Science and Engineering	2021	2278-3091	http://www.warse.org/IJATCSE/static/pdf/file/ijatcse128952020.pdf	3
19	Statistical Analysis Providing COVID-19's Lethalty Rate for the Elderly People using R	International Journal of Advanced Science and Technology	2020	2005-4238	http://sersc.org/journals/index.php/IJAST/article/view/20846/10511	3
20	Performance Evaluation of Intelligent Face Mask Detection System with various Deep Learning Classifiers	International Journal of Advanced Science and Technology	2020	2005-4238	http://sersc.org/journals/index.php/IJAST/article/view/23805	3
21	Malaria Parasite Detection using Deep Learning in Thick Blood Smears	International Journal of Recent Technology and Engineering	2020	2277-3878	https://www.ijrte.org/wp-content/uploads/papers/v9i1/A2807059120.pdf	3
22	Identification of diabetes with recursive partitioning algorithm using machine learning	International Journal on Emerging Technologies	2020	2249-3255	https://www.researchtrend.net/ijet/pdf/Identification%20of%20Diabetes%20with%20Recursive%20Partitioning%20Algorithm%20using%20Machine%20Learning%20L.pdf	3
23	Elicitation and analysis of security requirements and patterns for IOT based health monitor	Lecture Notes in Electrical Engineering book series	2020	978-981-15-3124-8	https://link.springer.com/chapter/10.1007%2F978-981-15-3125-5_6	3

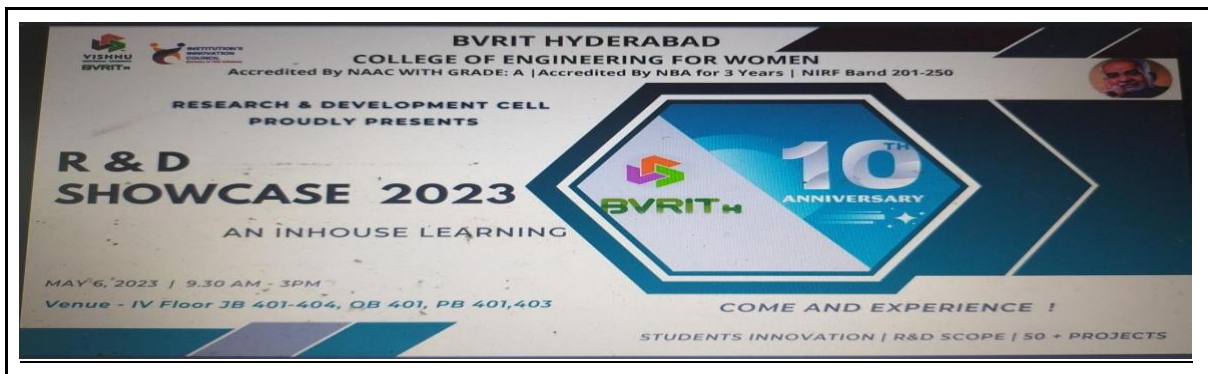|					
24	Development of IoT Health Monitor System using Security Patterns	International Journal of Engineering and Advanced Technology	2020	2249 – 8958	https://www.ijeat.org/wp-content/uploads/papers/v9i3/C46790293 20.pdf	3
25	Identification and Remediation of Vulnerabilities in IoT based Health Monitor	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	2020	2278-3075	https://www.ijitee.org/wp-content/uploads/papers/v9i2/B78051 29219.pdf	3
26	Detect stress: A novel stress detection system based on smartphone and wireless physical activity tracker	Advances in Intelligent Systems and Computing	2019	978-981-13-1579-4	https://link.springer.com/chapter/10.1007/978-981-13-1580-0_7	3
27	Machine Learning Based Recognition of Crops Diseases by CNN	International Journal of Innovative Technology and Exploring Technology	2019	2278-3078	https://www.ijitee.org/wp-content/uploads/papers/v8i9/I813307 8919.pdf	3
28	Performance Analysis of Various Classification Algorithms in Heart Diseases Using Orange Tool	Journal of Emerging Technologies and Innovative Research	2018	2349 - 5162	http://www.jetir.org/papers/JETIR1812233.pdf	3

Activities:

1. **R&D Showcase -2024** was inaugurated by the Chief Guest **Sri Srinivas Ravi Kumar, Founder MoBhiSure Solutions @ PB-G2.** The event is organized by BVRIT HYDERABAD College of Engineering for Women on 4th May, 2024 from 9:30 to 3:00 PM at the following locations PB-G2, G3, 201; OB- G1, G2, 101, 102; JB-201, 202, 301, 302, 401, 402. The Valedictory Ceremony is conducted at DB-IV Floor Seminar Hall.

2. **R&D Showcase -2023** was inaugurated by **Dr KV.N Sunitha, Principal @ BVRIT HYDERABAD College of Engineering for Women.** The event was organized by BVRIT HYDERABAD on 6th May, 2023 from 9:30 AM to 3:00 PM at the following venue IV floor JB 401-402, OB 401, PB 401, 403. The Valedictory Ceremony is conducted at DB-IV Floor Seminar Hall.

Achievements:

1. One Patent is Granted out of Six Patent Published.
2. Twenty Eight papers published in various reputed journals like UGC, SCI, SCOPUS Indexed, Web of Science, Springer.

Gallery:

Coordinator   HoD-CSE