KG COLLEGE OF ARTS AND SCIENCE
(affiliated to Bharathiar University and Accredited by NAAC)
Research and Development Cell
Faculty Researcher Profile

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FACULTY RESEARCHER PROFILE TEMPLATE

Name	Dr. V.V.Gomathi	Degrees	M.C.A., M.Phil., Ph.D
Image for home page	https://drive.google.com/file/d/1jGzG_7WxbULAHMgy8wexXDGs-vimEA5_/view?usp=sharing		
Faculty Profile (200 Words Minimum)	V.V.Gomathi Chandramohan completed M.Phil Computer Science in Karpagam Arts and Science College in 2005 and Ph.D Computer Science in Bharathiar university in 2006. Gomathi′s Research area is Data Mining and Medical Image Analysis. She has published 12 papers in International Journals and 1 Paper in National Journal, 2 articles in Magazine. She has presented 12 Papers in National Conferences and 3 Papers in International Conferences. She Completed IBM DB2 UDB V8.1 Family Fundamentals in 2007. She got best paper award received from National Conference on ″Recent Trends in Data mining and its Applications (NCDMA-2006)″, Annamalai University, Chidambaram in 2006. She has attended more than 10 workshops and conferences. She has attended one month orientation programme and two weeks MOOCs course and one week Research FDP organized by Ministry of Human Resource Development (MHRD), Government of India and also attended more than 60 online webinars and FDP. She has written two Chapters in a book entitled as ″Trends in Bioinformatics″. She is a Peer Reviewer in Research Council of Oman.		
Keywords	Data Mining, Signature Quadratic form Distance measures, clustering, segmentation, Classification, Organ Segmentation, Radiotherapy, Knowledge Discovery Database.		
RESEARCH PROJECTS / FOCUS AREAS			
Title and description of research projects and Ph.D Research / focus areas. (Minimum 100 Words about each projects)	**PhD Thesis- Knowledge Discovery from Computer Tomography images using image mining algorithms for effective Radiotherapy.** The main objective of this research work is to develop an intelligent diagnostic method and also discover interesting knowledge from multiple slices of Computer Tomography images for effective radiotherapy in		

cancer treatment. Hybrid intelligent diagnostic method is proposed to assist the radiologists and radio oncologist to increase their diagnostic confidence and avoid inter and intra personal variability. The obtained organ and tumor contouring results by the proposed method can be executed for medical experts to give effective radiotherapy. The overall performance of the proposed system is good and valuable to improve the diagnosis and reduce the number of unnecessary biopsies. The system can be used as an intelligent tool by radiologists and radio oncologists to help them make more reliable diagnosis. The proposed methods are demonstrated on real time CT image dataset.

MPhil Thesis: Enhanced Pincer-Search Algorithm To Increase Human Life Days From Affecting Cardiac Arrest.

Heart attack is one of the serious diseases affecting most of the men and also affecting women in the world. The prognosis of life for patients with heart failure remains poor. By using Data Mining methods, the purpose of this study was to evaluate the most important criteria for predicting patient survival and to profile patients to estimate their survival chances together with the most appropriate technique for health care. In this research, the opportunity to analyse medical events in a patient life is described briefly. One thousand fifty five patients who had suffered from cardiac arrest were included in this analysis. The live patients and death patients are separated in detail and then they were compared. In this research the Apriori and Pincer-Search Algorithm was compared and found Pincer search algorithm performs well when some maximal frequent itemsets are long. It discovers maximal frequent sets to generate association rule. Hence in this research, the Pincer-Search Algorithm is enhanced to retrieve useful information from medical databases and predict fruitful interesting results. The support value is increased to the Live Patients and compared with the death patients. From increasing the support values, the live patient reaches the value of the death patient and suggestions are given to increase the patient′s life days. From this analysis, the physician can predict seriousness of patient′s disease and advise the patient′s survival risk factors.

PUBLICATIONS

- Gomathi, V.V and S.Karthikeyan, 2013. A Proposed Hybrid Medoid Shift with K-Means (HMSK) Segmentation Algorithm to Detect Tumor and Organs for Effective Radiotherapy. Springer Lecture Notes in Computer Science, 8284:139-147. page Link:https://link.springer.com/chapter/10.1007 /978-3-319-03844-5_15

- Gomathi, V.V and S.Karthikeyan, 2014. Performance Analysis of Wavelet and Curvelet Filtering Techniques for Reduction of Streak Artifacts in Computer Tomography Images. International Journal of Control Theory and Application, 7(1):53-62.(Scopus Indexed).Link :https:// drive.google.com/file/d/1R1jDy28HqC0DTJ__bP9f3LWxDGnnA-YV/view? usp = sharing

- Gomathi, V.V and S.Karthikeyan. 2015. A Novel ECFT Algorithm to Improve the Excellence of Computer Tomography Images for Effective Segmentation. International Journal of Tomography and Simulation, 28(2):45-62. (Scopus Indexed).

  Page Link: http://www.ceser.in/ceserp/index.php/ijts/article/view/3427

- Gomathi, V.V and S.Karthikeyan, 2014. An Efficient Clustering based Segmentation Algorithm for Computer Tomography Image Segmentation. Journal of Biomedical Engineering and Medical Imaging, 1(3):1-11. (DOI: 10.14738/jbemi.13.267).

  Page Link: https://journals.scholarpublishing.org/index.php/JBEMi/article/view/267

- Gomathi, V.V and S.Karthikeyan, 2014. Performance Evaluation of HMSK and SQFD Algorithms for Computer Tomography (CT) Image Segmentation of Effective Radiotherapy. Journal of Theoretical and Applied Information Technology, 66(2): 409-415. (Scopus Indexed, Impact factor: 1.71).

  Page Link: http://www.jatit.org/volumes/Vol66No2/2Vol66No2.pdf

- Gomathi, V.V and S.Karthikeyan, 2014. An Efficient Hybrid Segmentation Algorithm for Computer Tomography Image Segmentation. International Review on Computer and Software (IRECOS), 9(9):1576-1582. (DOI:http:// dx.doi.org /10.15866 /irecos.v9i9. 3039, Scopus Indexed, Impact Factor:0.259).

  Page Link: https://www.praiseworthyprize.org/jsm/index.php?journal=irecos&page=article&op= view & path%5B%5D=16166

- Gomathi, V.V and S.Karthikeyan, 2014. Performance Analysis of Distance Measures for Computer Tomography Image Segmentation. International Journal of Computer Technology & Applications, 5(2): 400-405. (Scopus Indexed, Impact factor: 2.804)

  Page Link: https://www.semanticscholar.org/paper/Performance-Analysis-of-Distance-Measures-for-Image-Gomathi-Karthikeyan/952f701206519cc289d4ca6ca1d0d5b41759c6b3

- Gomathi, V.V and S.Karthikeyan. 2015. A New CUT Method for Spliced Organ Segmentation in Computer Tomography Images to Provide Effective Radiotherapy. International Journal of

Tomography and Simulation, 28(3):13-22 (Scopus Indexed)

Page Link: http://ceserp.com/cp-jour/index.php/ijts/article/view/1577

➢ Gomathi, V.V and S.Karthikeyan. 2015. Multiple Organ Identification System using Signature Quadratic Form Distance for Effective Radiotherapy. Current Medical Imaging Reviews, 11(4): 247-253 (DOI: 10.2174/1573405611666150521232741, Science Citation Index Expanded, Impact factor: 0.613) .

Page link: https://benthamscience.com/journals/current-medical-imaging/volume/11/issue/4/

➢ Gomathi V.V and S. Karthikeyan, 2015. Medical Image Mining and Processing − What, Why and How?, International Journal of Data Mining and Emerging Technologies, 5(2): 63−72.

Page Link:
http://www.indianjournals.com/ijor.aspx?target=ijor:ijdmet&volume=5&issue=2&article=001

➢ Gomathi V.V and S. Karthikeyan, 2016. An Efficient Hybrid Filtering Method for Noise and Artifacts Removal in Effective Medical Image Segmentation. Asian Journal of Computer and Information Systems (AJCIS), 4(1):18-25.

Page link: https://www.ajouronline.com/index.php/AJCIS/article/view/3622

➢ Gomathi V.V. S.Karthikeyan, 2006. An Efficient Algorithm for Predicting Survival of Medical Data (Epsa). International Journal of Technology, Knowledge and Society.

Page Link: https://cgscholar.com/bookstore/works/an-efficient-algorithm-for-predicting-survival-of-medical-data-epsa.

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