

JUDY. M.V

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EDUCATION

Ph.D (Computer Science)	2009
M.Phil (Computer Science)	2005
Master of Computer Applications (MCA)	2002

Designation/ Present Position : Associate Professor

Official Address for Communication:

Department of Computer Applications,
Cochin University of Science and Technology,
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TEACHING AND RESEARCH EXPERIENCE: 18 YEARS

Associate Professor Department of Computer Applications, Cochin University of Science and Technology (CUSAT), Cochin, Kerala www.cusat.ac.in	Dec 2016 - Till Date
Associate Professor and Head of the Department (H.O.D), Department of CS and IT AMRITA University (Kochi Campus) www.amrita.edu	Jun 2010 - Dec 2016
Principal Investigator Department of Science and Technology (DST Funded Project)	Jul 2014 - Dec 2016
Assistant Professor-III SASTRA University, Thanjavur. www.sastra.edu	Aug 2003 - Nov 2009
Lecturer Bishop Heber College, Trichy. www.bhc.edu.in	Aug 2002 - Aug 2003

SPECIALIZATION

- Big Data Analytics
- Data Mining
- Evolutionary Computation
- Computational Biology

PAPERS PUBLISHED IN INTERNATIONAL JOURNALS

1. **Sabeen Govind and M V Judy, "A Secure Framework for Remote Diagnosis in Health Care: A High Capacity Reversible Data Hiding Technique for Medical Images"**, Computers & Electrical Engineering, An International Journal, Elsevier, SCI, Impact factor: 2.67, (In Press)
2. **Ajitha S and M.V. Judy "A Novel Hybrid Approach To Blaze Out A New Path For Sustainable Results In Glaucoma Detection Using Fundus Images"** International journal of World Review of Science, Technology and Sustainable Development, Inderscience Publishers (In Press)
3. **Ajitha S and M V. Judy, "A Research on Glaucoma and Neuronal Image Disease Detection Using Various Techniques"**, TEST Engineering & Management magazine ISSN: 0193 - 4120, (The Mattingley Publishing Co., Inc.), 3756 Grand Ave, Suite 205, Oakland, CA 94610-1545, January - February 2020 ISSN: 0193 - 4120 Page No. 9152 – 9167
4. **Shailesh, S. and Judy, M.V. "Computational Framework with Novel Features for Classification of Foot Postures in Indian Classical Dance"**, Intelligent Decision Technologies, IOS Press ISSN -1872 4981, Jan. 2020, 119 – 132.
5. **Shailesh S and Judy M V, "Automatic Annotation of Dance Videos Based On Foot Postures"**, Indian Journal of Computer Science And Engineering, Engg Journals Publications- ISSN 0976 5166 Vol. 11 No. 1 Jan-Feb 2020
6. **Nikhil K S, Ambika B & M V Judy, "Iterative Parallel Genetic Algorithm or detecting communities in Social Networks"** ARPN Journal of Engineering & Applied Sciences Vol 12, No. 23 December 2017 ISSN: 1819-6608, SNIP: 2016-0.391
7. **M V Judy , Autism spectrum disorders: Integration of the genome, transcriptome and the environment**, Journal of the Neurological Sciences, Elsevier Publication, ISSN: 0022-510X15 May 2016, Vol 364, pp 167-176, SCI, Impact Factor : 2.126
8. **Sivasankar, S., Nair, S., & Judy, M. V. "Feature Reduction in Clinical Data Classification using Augmented Genetic Algorithm"**, International Journal of Electrical and Computer Engineering, Official Publication of Advanced Engineering and Science (IAES) ISSN: 2088-87085(6), December 2015, pp. 1516-1524, Volume 5. No. 6
9. **Sonumol, N. S., Uma, V. R., Ashok, S., & Judy, M. V. (2015). Community Detection in Multidimensional Genomic Dataset.** International Journal of Artificial Intelligence, Copyright 2015 by IJAI (CESER PUBLICATIONS), ISSN 0974-0635, March 2015, Volume 13, Issue Number 2
10. **Ashok, S., & Judy, M. V. (2015), A novel iterative partitioning approach for building prime clusters** International Journal of Advanced Intelligence Paradigms, Inderscience Publishers, ISSN:1755-0386, E-ISSN:1755-0394, May 2015, pp 313 -325, Vol 7 (3/4)
11. **Nanditha, J., Sruthi, K. N., Ashok, S., & Judy, M. V. (2016). Optimized Defect Prediction Model Using Statistical Process Control and Correlation-Based Feature Selection Method.** In Intelligent Systems Technologies and Applications (pp. 355-366). Springer International, ISSN: 2194-5357
12. **Kumar, S. S., Krishnan, T., Ashok, S., & Judy, M. V. (2015). Clutter Reduction in Parallel Coordinates using Binning Approach for Improved Visualization.** International Journal of Electrical and Computer Engineering, Vol. 5, No. 6, December 2015, pp. 1564 -1568 ISSN: 2088-8708
13. **Suma, V. R., Renjith, S., Ashok, S., & Judy, M. V. (2016). Analytical Study of Selected Classification Algorithms for Clinical Dataset.** Indian Journal of Science and Technology, Vol 9(11), March 2016, ISSN (Print) : 0974-6846 ISSN (Online) : 0974-5645
14. **Alana Mathew, Reshmi Raj, Sreeja Ashok , M.V.Judy , "Exploring highly connected protein complexes in PPI networks "**, International Journal of Control Theory and Applications, Volume 9, Issue 10, 2016, Pages 4269-4276 , ISSN 0974 - 5572
15. **Leena Aswathy Menon, R., SuryaPrabha, B., Sreeja Ashok , Judy, M.V., " Application of ant colony optimization in identifying the key geneinteractions"**, International Journal of Control Theory and Applications , Volume 9, Issue 10, 2016, Pages 4211-4219,ISSN 0974 - 5572
16. **Niranjan.R, Amal Prakash.N1,Sreeja Ashok , M.V.Judy," Exploring Key Gene Interactions Using Particle Swarm Optimization"**, Int J Pharm Bio Sci 2016 July ; 7(3): (B) 734 – 741, ISSN 0975-6299
17. **Divya Chandra Babu, Lekshmi A Kumar and M.V Judy Nair "Wrapper Feature Selection Methods along with Support Vector Machine in Disease Classification"** European Journal of Scientific Research Volume 132 No 4, ISSN 1450-216X
18. **AiswaryaUday, Pooja Krishna C.U, Hari Narayanan A.G, M.V Judy "Pathway Phenotype Association Using Improved Weighted Random Forest"** European Journal of Scientific Research Volume 132 No 1, ISSN 1450-216X

19. **AshutoshRajan and M V Judy** “ **An Enhanced Map Reduce Framework for Improving the Performance of Massively Scalable Private Clouds**”. International Journal of Computer Applications (IJCA). Proceedings on AICWIC(3):24-26, January 2013., January 2013. Published by Foundation of Computer Science, New York, USA, ISSN 0975 - 8887
20. **Judy, M.V., Ravichandran, K.S & K.Murugesan,** “**A multi-Objective Evolutionary algorithm for Protein Structure Prediction with Immune Operators**”, International journal, Computer Methods in Biomechanics and Biomedical Engineering, (2009) 1476-8259, Volume 12, Issue 4, August 2009, Pages 407 – 413, ISSN: 1476-8259 (electronic) 1025-5842 (paper) , (Impact Factor: 1.573) © Thomson Scientific Journal Citation Reports 2008

PAPERS PUBLISHED IN NATIONAL JOURNALS

1. **Sreeja Ashok , M V Judy and N.Thushara Vijayakumar** "Information Visualization in Gene Expression Data" in Computer Society of India Communications (CSIC), November 2014 issue ISSN 0970-647X
2. **Sreeja Ashok, N.Thushara Vijayakumar and M V Judy** "Biological Data Science: Workflow" in Computer Society of India Communications (CSIC), November 2015, ISSN 0970-647X
3. **Judy M.V, Ravichandran K.S, & K.Murugesan,** “**Enhancement of Protein Folding Problem using a Genetic Algorithm with In-trons**” Published in International journal of Computational Intelligence in Bio-informatics, Volume 1 Number1(2008) pp.35-43, ISSN:0973-385X
4. **Judy, M.V., B.Ramadoss.,** “**An Enhanced Solution to the Protein Folding Problem Using a Hybrid Genetic Algorithm With G-Bit improvement Strategy**”, International Journal of Modeling and Optimization 2012, Vol.2(3): 356-359 ISSN: 2010-3697

PAPERS PUBLISHED AS CHAPTERS IN INTERNATIONAL BOOKS/ SERIES/DIGITAL LIBRARY:

1. **Sabeen Govind, M.V. Judy,** “A Novel Data Hiding Technique with High Imperceptibility Using a 3-Input Majority Function and an Optimal Pixel Adjustment” , Proceedings of AIDE, Book Title - Advances in Artificial Intelligence and Data Engineering, Series - Advances in Intelligent Systems and Computing, Series Volume – 1133, Publisher - **Springer Singapore**, eBook ISBN 978-981-15-3514-7, <https://www.springer.com/gp/book/9789811535130>
2. **Haritha K. and Judy M. V.,** “Fuzzy Cognitive Map based Genetic Algorithm for Community Detection”, 4th International Conference on Advanced Computing and Intelligent Engineering (ICACIE 2019), **Springer Nature Singapore Pte Ltd.** 2021 C. R. Panigrahi et al. (eds.), Progress in Advanced Computing and Intelligent Engineering, Advances in Intelligent Systems and Computing 1198, https://doi.org/10.1007/978-981-15-6584-7_39 (In press), ISBN 978-981-10-6875-1
3. **Judy M.V., Soman G.** (2018) Parallel Fuzzy Cognitive Map Using Evolutionary Feature Reduction for Big Data Classification Problem. In: Mandal J., Sinha D. (eds) Social Transformation – Digital Way. CSI 2018. Communications in Computer and Information Science, vol 836. **Springer, Singapore.** http://link-springer-com-443.webvpn.fjmu.edu.cn/chapter/10.1007%2F978-981-13-1343-1_22
4. **Asok A., Jisha T.J., Ashok S., Judy M.V.** (2016) Integrated Framework Using Frequent Pattern for Clustering Numeric and Nominal Data Sets. In: Satapathy S., Joshi A., Modi N., Pathak N. (eds) Proceedings of International Conference on ICT for Sustainable Development. Advances in Intelligent Systems and Computing, vol 408. **Springer, Singapore.**, Print ISBN978-981-10-0127-7, Online ISBN978-981-10-0129-1, https://link.springer.com/chapter/10.1007/978-981-10-0129-1_5
5. **Sreeja Ashok, Judy M.V.** (2016) Process Flow for Information Visualization in Biological Data. In: Satapathy S., Bhatt Y., Joshi A., Mishra D. (eds) Proceedings of the International Congress on Information and Communication Technology. Advances in Intelligent Systems and Computing, vol 438. **Springer, Singapore.**, Print ISBN 978-981-10-0766-8 Online ISBN 978-981-10-0767-5 https://link.springer.com/chapter/10.1007/978-981-10-0767-5_6
6. **Prabhakar N.P., Rani D., Hari Narayanan A.G., Judy M.V.** (2017) Analyzing the Impact of Software Design Patterns in Data Mining Application. In: Dash S., Vijayakumar K., Panigrahi B., Das S. (eds) Artificial Intelligence and Evolutionary Computations in Engineering Systems. Advances in Intelligent Systems and Computing, vol 517. **Springer, Singapore.**, Print ISBN 978-981-10-3173-1, Online ISBN 978-981-10-3174-8 <https://www.springerprofessional.de/en/analyzing-the-impact-of-software-design-patterns-in-data-mining-/13299752>
7. **Nair, D. P., Dayanand, K., & Judy, M. V.** (2015, August). Survey on Tag SNP selection methods using soft computing techniques. In Proceedings of the Third International Symposium on Women in Computing and Informatics (pp. 722-728). **ACM Digital Library** ISBN: 9781450333610 <https://dl.acm.org/doi/10.1145/2791405.2791557>

8. **Narayanan A.G.H., Krishnakumar U., Judy M.V.** (2014) An Enhanced MapReduce Framework for Solving Protein Folding Problem Using a Parallel Genetic Algorithm. In: Satapathy S., Avadhani P., Udgata S., Lakshminarayana S. (eds) ICT and Critical Infrastructure: Proceedings of the 48th Annual Convention of Computer Society of India- Vol I. Advances in Intelligent Systems and Computing, vol 248. **Springer, Cham**. Print ISBN 978-3-319-03106-4 , Online ISBN 978-3-319-03107-1. https://link.springer.com/chapter/10.1007/978-3-319-03107-1_27
9. **Hari Narayanan A.G., Krishnakumar U., Judy M.V.**, Constructing a personalized e-learning system for students with autism based on soft semantic web technologies, IEEE International Conference on Technology Enhanced Education, January 2012 published in **IEEEXplore** Print ISBN: 978-1-4577-0725-4 <https://ieeexplore.ieee.org/document/6208625>
10. **Judy, M.V. and Ravichandran, K.S.** A solution to protein folding problem using a genetic algorithm with modified keep best reproduction strategy IEEE Congress on Evolutionary Computation,(2007),.Library of Congress: 2007928155, IEEE Xplore, ISBN: 1-4244-1340-0, Volume , Issue , Page(s):4776 – 4780. <https://ieeexplore.ieee.org/document/4425099/>

PAPERS PUBLISHED IN INTERNATIONAL CONFERENCES

1. **Shailesh S , Anantha Krishnan M , and Judy M V**, "**Classification of Sequence Data Using LSTM: An Application on Chaotic Sequences**" in International Conference on Modeling Simulation and Optimization 2020 (CoMSO2020), National Institute Of Technology, Silchar, 3-5, August 2020
2. **Ajitha S and M.V. Judy**, "**A Novel Approach For Glaucoma Detection**" in International Conference on Intelligent Computing and Control Systems [ICICCS 2019] held on 15-17 May 2019 at Vaigai College of Engineering, Madurai, Tamil Nadu, India.. Paper under publication in IEEEXplore
3. **Ajitha S and M.V. Judy**, "**FR CNN Classification For the Recognition Of Glaucoma**", International Conference on computing communication and energy systems 2020, MEAC PERINTHALMANNA 26-27 FEB 2020
4. **Ramesh R and Judy M V** , "**Clustering Analysis of Epidemic Dataset using Distributed Platform**", International conference on Advances in computing, communication, embedded and secure systems, ACCESS 2020, 28-30th may, 2020, Adi Shankara Institute of Engineering and Technology, Kalady, India
5. **Judy M. V. and Gayathri Soman** , "**Analysing Disease Spread In Animal Social Networks By Using Evolutionary Modular Structure Detection**" 4th International Conference on ICT for Sustainable Development (ICT4SD 2019), held in Goa, India, on 5-6 July 2019
6. **Ramesh R and Judy M.V**, "**Leveraging Big Data Analytics Frameworks for Computational Epidemiology**", in International Conference on Intelligent Computing and Signal Processing (IntelliSig2019) during 8-9 March 2019 conducted by Central University of Kerala, India
7. **Sreeja Ashok and Dr. M.V.Judy** "**Graph-Based Clustering Approach For Identifying Functionally Coupled Genes** " is accepted and presented in the 2nd International Conference on Structural and Functional Genomics (ICSAFG-2016) at School of Chemical and Biotechnology, SASTRA University, Thanjavur , August 19-20, 2016
8. **Thushara Vijayakumar and Dr. M.V.Judy** "**Computational Pathway Analysis for Complex Disorders**" is accepted and presented in the 2nd International Conference on Structural and Functional Genomics (ICSAFG-2016) at School of Chemical and Biotechnology, SASTRA University, Thanjavur , August 19-20, 2016.
9. **M.R.Bivin, M.V.Judy and B.Ramadoss**, "**A Neutrosophic Cognitive Map Based Approach for the Prediction of Severity of Autism Spectrum Disorder** " at Third International conference on Bioinformatics (IFIP), September 2013, NIT, Bhopal.
10. **M.V.Judy, K.S.Ravichandran, and K.Murugesan**, "**An Enhanced Multi-Objective Evolutionary Approach for Protein Structure Prediction** " IEEE International Advanced Computing Conference,(2009)Thapar University, Delhi, India.
11. **Judy M.V, K.S.Ravichandran and K.Murugesan**, "**A Solution to the Protein Folding Problem using an Improved GA**" BEST PAPER AWARD in CIT-BIOTECH (2007), An International conference organized by CIT, Coimbatore and TNAU

PAPERS PUBLISHED IN NATIONAL CONFERENCES

1. **SumeshS, C. Tripthi and M.V.Judy, "A Hybridized Approach for Network Intrusion Detection System"**, National Conference on Applications of Data Mining in Management of Metabolic and Degenerative Disorders (2012) , Amrita School of Arts and Sciences, Mysore, India.
2. **M. V. Judy, "Data Mining in Library Sciences"** , National Conference on Open Data and Data Repositories, University Library, CUSAT, March 06-08, 2018
3. **Hari Narayanan A G M.V.Judy," Analysis of Soft Computing Techniques used in Mining Health Care Data"**, National Conference on Applications of Data Mining in Management of Metabolic and Degenerative Disorders (2012) , Amrita School of Arts and Sciences, Mysore, India.
4. **Judy M.V, K .S .Ravichandran, "Investigation of Large Scale Prediction of Disulphide Bridges Using Soft Computing Techniques"**, NCCTSo7, National Conference organized by Sri Ramakrishna Engineering College, (2007) Coimbatore, India
5. **Judy M V, "Making Industry Friendly Curriculum"**, at the National Level Seminar held on May 2006, at SLCS college, Madurai.

FUNDED PROJECT

Principal Investigator

Development of a computational tool, algorithms for Gene finding,
mapping of genotype – phenotype based on classification of clinical data
for Autism spectrum disorder.

Amount : 28, 55, 084

Status : Completed

**Department of Science and Technology
Cognitive Science Division**

Principal Investigator

Implementation of enhanced
Deep learning algorithms for
Big data analytics in computational epidemiology

Amount : 4, 00, 000

Status : Completed

CUSAT – State Plan Grants 2016-2017

Supervisor

Big data analytics research Facility

Amount : 40, 00, 000

Status : Ongoing

CUSAT – State Plan Grants 2016-2017

Mentor

Automated real time traffic control system

Amount : 1, 00, 000

Status : Completed

IEDC - CUSAT

Principal Investigator

**Visual Enhancement of Underwater Optical Images and Accuracy Improvement
of Target Detection in SONAR Images**

Amount : 25, 00, 500

Status : Ongoing

Department of Science and Technology – Interdisciplinary Cyber-Physical System

Co-PI

Securing Clinical Information in Medical Images

Amount : 50, 000

Status : Completed

Rajagiri Hospital/Rajagiri School of Social Sciences

Co-PI

Establishment of Bioinformatics Centre, CUSAT

Amount : 75, 00, 000

Status : UnderSanctioningProcess

Department of Biotechnology, Govt of India

AWARDS RECEIVED

- **Best Paper Award** in CIT-BIOTECH (2007), An international conference organized by CIT, Coimbatore and Tamil Nadu Agricultural University.
- **Longest Continuous SBC Award** from Computer Society of India(CSI), for year 2015 and 2016.
- **Significant Contribution** under Computer Society of India Service, 2016.

ROLES AND RESPONSIBILITIES HELD/HOLDING

- Member, Academic Council, Cochin University of Science and Technology.
- Member, Board of studies, Computer Applications, Cochin University of Science and Technology.
- Member, Board of Studies, Library and Information Sciences, Cochin University of Science and Technology.
- Member, Board of Studies in Engineering (PG), University of Calicut.
- Technical Committee Member, Sree Sankara University, Kalady.
- Subject Expert, Interview Board for Baharathiya Vidya Bhavan.
- Expert Visiting Committee Member (EVC) of AICTE.
- Reviewer for international journal "Applied soft computing" , Elsevier publication and Research in Autism Spectrum Disorder, Elsevier publication.
- Former Head Of the Department (H.O.D) of Computer Science and Information Technology, Amrita School of Arts and Sciences, Amrita VishwaVidyapeetham University, Kochi(till December 2016)
- Member of Board of studies for Amrita School of Engineering, Master of Computer Application, (MCA) of Amrita VishwaVidyapeetham university (till December 2016).
- Chairperson of the Board of Studies for Arts and Sciences ,(BCA, MSc. Computer Science) of Amrita VishwaVidyapeetham university (till December 2016).
- Research supervisor - Amrita University (till December 2016).
- Doctoral Committee Member for research scholars registered under Amrita University (till December 2016).
- Student Branch Counselor(SBC) for the Computer Society of India (CSI) student chapter, ASAS, Kochi (December 2016).
- TCS Research Scholar Program - MoU with TCS Innovation Labs for a sponsored Research Scholar (Technology Transfer) (December 2016).
- Adjunct Faculty for BITS PILANI Work Integrated Learning Programme (WILP) (December 2016).

PARTICIPATION IN INTERNATIONAL/NATIONAL SEMINARS/WORKSHOPS

Convener for national workshops / conferences / seminars

More than 40

Invited talks/Session chairs in national and international conferences/workshops

More than 50