Bhargavi's Profile

Dr. R. Bhargavi

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Education

Doctor of Philosophy from Madras Institute of Technology, Anna University in the faculty of Information and Communication Engineering (Computer Science), 2010 – 2014.
Thesis Title: Complex Event Processing for Sensor Network Applications.

M.Tech (CSE) with 8.2 CGPA, from Indian Institute of Technology, Madras (IITM), 2004.

M.Sc Tech. with University Second Rank, from Sri Venkateswara University, Tirupati, 1996.

B.Sc Electronics with Distinction, from Sri Krishnadevaraya University, 1993.

Professional Experience

Academic Experience:

- Professor in VIT University, Chennai campus, India, from 2020 July - Till date.
- Associate Professor in VIT University, Chennai campus, India, from 2014 May – 2020 July.
- Assistant Professor in the Department of Information Technology, SSN College of Engineering, Chennai, India, from 1999 April – 2004 December.

Industrial Experience:

- Senior Engineer (Research & Development), Dec 2004 – September 2009: Worked as R&D Engineer in **Xambala Inc**. Chennai. With the following responsibilities
    - Specifying, designing, implementing and testing software/RTL modules.
    - Software/Hardware modeling.

    - Performance measurements and improvising performance metrics.
    - Implementing and testing trading strategies –Stock markets.
    - Management of software/Hardware teams. Tracking the project activities and progress.
- Project Associate MIT, **Anna University**, Chennai, India, from November 1997 – April 1998.
- Graduate Trainee in **National Aerospace Laboratories** (NAL) Bangalore, India, from July 1996 – September 1996.

Subjects/Courses Taught

- Machine Learning
- Big data Technologies
- Programming for Data Science
- Artificial Intelligence
- Large Scale Data Processing
- Problem Solving and Programming
- Data Structures and Algorithms
- Data Warehousing and Data Mining
- Operating Systems
- Microprocessors and Applications
- Programming in C, C++, Pascal
- Multimedia
- Computer Architecture and Organization
- Advanced Computer Architecture
- Digital System Design

Academic and Administrative Responsibilities Held

- Head of the Department – 5 Year Integrated M.Tech (CSE) with Specialization in Business Analytics from 2019 to 2022.
- Curriculum and Syllabus Development for Integrated M.Tech CSE with Specialization in Business Analytics
- Board of Studies member, VIT University.
- Board of Studies member, St. Peter's Institute of Higher Education and Research, 2018.
- Board of Studies member, St. Peter's Institute of Higher Education and Research, 2019.
- Academic/Student Advisory committee member, VIT university, Chennai
- Malpractice Enquiry committee member, VIT University, Chennai from 2016 - 2022
- Project coordinator from 2015 to 2018

Awards and Honors

- Best Teacher Award in 2002.
- University Second Rank in MSc. Tech.

Consultancy

- Design and Development of Machine Learning Tool Box for Altair Compose – For ALTAIR Engineering India Pvt. Ltd. PI- Dr. Bhargavi & Dr. T. Subbulakshmi.
- Multi Sensor Image and Data Fusion – Funded by TCS Innovation Labs, Bangalore.
- Complex Event Processing for Sensor Network – Funded by Department of Science and Technology, Govt. of India

Invited Talks/Technical Lectures Delivered

1. Expert lecture "Neural Networks and Deep Learning ", in 10 Days Online Faculty Development Program on Artificial Intelligence for Computer Vision and Image Processing" on 06.06.2022, organised by E&ICT Academy, NIT Warangal in association with Kakatiya Institute of Technology and Science , Warangal.
2. Expert lectures "Logistic Regression and K-Means Clustering" in Online Short Term Training Programme on Advanced Machine Learning Algorithm organized by JNTUH on 21-09-2021.
3. Expert lecture on Clustering using R in the R workshop organized by IITB
4. Expert talk on Hierarchical Clustering Using R in AICTE - ISTE Sponsored One Week Online Induction/Refresher Programme on "Machine Learning using R Program" organized by Department of Computer Science and Engineering, Jyothishmathi Institute of Technology and Science, Karimnagar, Telangana on 17-12-2020
5. Expert lectures on Machine Learning in 2 week student development program organized by Department of Computer Science and Engineering , Jyothishmathi Institute of Technology and Science in December 2020
6. Keynote address on CEP for Big data applications in International Conference on Cognitive Computing and Data Analytics (ICCBDA 2019) Organized by St.peter's Institute of Higher education and research
7. Expert lecture on Hadoop Fundamentals in Short term course on Big data analytics for Deakin University students organized by VIT university – 13.02.2017
8. Expert lecture on Bigdata Analytics in the National level Bigdata Analytics workshop organized by Agni Institute of Technology – 23.02.2017
9. Expert lecture on Linear regression & Multiple linear regression modeling in AICTE-sponsored Two-week FDP on "Big Data Analytics and Its Research Issues" organized. By MNM Jain college on 21.11.2017
10. Expert lecture on HDFS basics and Hadoop eco system in DST (Bigdata Initiative Division) Sponsored 10 Days Training Programme on Big Data Analytics organized by Anand Institute of Higher Technology on 29.04.2016

Research Profile

Areas of Interest

Machine learning, Deep learning, Stream/Online learning in the domain of Agriculture, Healthcare. Interested in exploring applications of ML and DL in other domains also.

h-index as on November 2023 – 15
i10-index as on November 2023 - 22

Google scholar https://scholar.google.com/citations?user=AaljAEgAAAAJ
Scopus https://www.scopus.com/authid/detail.uri?authorId=36661898100

Ph.D Guidance

- Jothi Prabha A - Prediction of Dyslexia and its stages based on eye gaze points – 2021
- Maya Gopal P.S. - Efficient Paddy Crop Yield Prediction using Machine Learning – 2020
- Mr. Subramanian Arumugam – 2023 - Thesis Submitted

PG & UG Project Guidance

Guided more than 100 PG and UG projects.

Research Publications

Patents

Bhargavi R, Jothi Prabha A, Rama B, Hybrid Kernel modelling for optimizing the predictive performance, 202141011558 , 16/04/2021

Book Chapters

1. Prabha, A. J. ., Bhargavi, R. ., & Harish, B. . (2021). An Efficient Machine Learning Model for Prediction of Dyslexia from Eye Fixation Events. New Approaches in Engineering Research Vol. 10, 171–179. https://doi.org/10.9734/bpi/naer/v10/11914D (International Book)
2. Prabha, A. J., & Bhargavi, R. (2019). Prediction of Dyslexia Using Machine Learning—A Research Travelogue. In Proceedings of the Third International Conference on Microelectronics, Computing and Communication Systems (pp. 23-34). Springer, Singapore.
3. Vaidehi, V., Ravi Pathak, Renta Chintala Bhargavi, Kirupa Ganapathy, C. Sweetlin Hemalatha, A. Annis Fathima, P. T. V. Bhuvaneswari, Sibi Chakkaravarthy S. and Xavier Fernando. "Enhanced Complex Event Processing Framework for Geriatric Remote Healthcare." Handbook of Research on Investigations in Artificial Life Research and Development. IGI Global, 2018. 348-379. Web. 24 Jun. 2018. doi:10.4018/978-1-5225-5396-0.ch016
4. Bhargavi. R, “Complex Event Processing framework for Big data Applications”, Data Science and Big data computing, Springer, pp. 41 – 56, 2016.

International Journals

1. A. JothiPrabha, R. Bhargavi, B.V Deepa Rani, ‘Prediction of dyslexia severity levels from fixation and saccadic eye movement using machine learning’, Biomedical Signal Processing and Control, Volume 79, Part 1, 2023
2. Prabha, A.J. and Bhargavi, R. (2021), ‘Eye Movement Feature Set and Predictive Model for Dyslexia:Feature Set and Predictive Model for Dyslexia’, International Journal of Cognitive Informatics and Natural Intelligence, Volume 15, Issue 4, 1 – 22.

3. Prabha, A.J. and Bhargavi, R. (2020), 'Predictive Model for Dyslexia from Fixations and Saccadic Eye Movement Events.', Computer Methods and Programs in Biomedicine , 105538. (SCI)
4. Arumugam, S., Bhargavi, R. A survey on driving behavior analysis in usage based insurance using big data. J Big Data 6, 86 (2019). https://doi.org/10.1186/s40537-019-0249-5 (SCOPUS)
5. Maya Gopal P.S., & Chintala, B. R. (2020). Big Data Challenges and Opportunities in Agriculture. International Journal of Agricultural and Environmental Information Systems, 11(1), 48–66. doi:10.4018/ijaeis.2020010103 (SCOPUS)
6. Maya Gopal, P. S., & Bhargavi, R. (2019). A novel approach for efficient crop yield prediction. Computers and Electronics in Agriculture, 165, 104968. doi:10.1016/j.compag.2019.104968 (SCI)
7. Jothi Prabha, A., & Bhargavi, R. (2019). Prediction of dyslexia from eye movements using machine learning. IETE Journal of Research, doi:10.1080/03772063.2019.1622461 (SCI)
8. P.S. Maya Gopal and R.Bhargavi 2019, "Optimum feature subset for optimizing crop yield prediction using filter and wrapper approaches," ASABE- Applied Engineering in Agriculture, ISSN: 0883-8542, vol. 35(1), pp. 9-14. (SCI)
9. Maya Gopal P S,, & Bhargavi R,. (2019). Selection of Important Features for Optimizing Crop Yield Prediction. International Journal of Agricultural and Environmental Information Systems (IJAEIS), 10(3), 54-71. doi:10.4018/IJAEIS.2019070104 (SCOPUS)
10. P.S. Maya Gopal and R. Bhargavi 2019, " Performance Evaluation of Best Feature Subsets for Crop Yield Prediction Using Machine Learning Algorithms", Applied Artificial Intelligence, ISSN: 0883-9514, vol.33, no.7, pp. 621- 642. (SCI)
11. Tejas Anant Wagh, R Bhargavi, Tanmay Anant Wagh and R M Samant. Forest Cover Type Prediction using Cartographic Variables. International Journal of Computer Applications 182(30):14-18, December 2018.
12. PRABHA A, Jothi; R, Bhargavi; RAGALA, Ramesh. Prediction of dyslexia using support vector machine in distributed environment. International Journal of Engineering & Technology, [S.l.], v. 7, n. 4, p. 2795-2799, oct. 2018. ISSN 2227-524X. (SCOPUS)
13. Maya Gopal, P.S & Bhargavi, R, "Feature Selection for Yield Prediction Using Boruta Algorithm", International Journal of Pure and Applied Mathematics, Volume 118, No. 22, pp.139-144 (SCOPUS)
14. Bhargavi, Srinivas Guparthi, Anith R, "Relative Strength Index for Developing Effective Trading Strategies in Constructing Optimal Portfolio", International Journal of Applied Engineering Research, ISSN 0973-4562, Volume 12, Number 19, 2017, pp. 8926 -8936
15. Bhargavi, R & Mattal Sneha Abraham, Failure Analysis Based on Relaibility Testing using Genetic Algorithm, International Journal of Control Theory and Applications, ISSN 0974-5572, Vol 10, Issue 33, 2017, pp. 183-191
16. Bhargavi, R 2016, "Online Dynamic Regressive Learning", International Journal of Applied Engineering Research, ISSN 0973-4562, vol. 11, no. 3, pp. pp. 2085 -2090
17. R.Bhargavi, Mattal Sneha Abraham,"A study and evaluation of Hoeffding tree for stream data mining", International Journal of Engineering and future Technology, ISSN/ISBN Nos: 2455-6432, Vol 8, Issue 8, 2016, pp 18- 27.

18. Bhargavi, R & Srinivas Gumparthi, 2015, "Credit Risk Management Model Optimization Using Complex Event Processing", International Journal of Applied Engineering Research, ISSN 0973-4562, vol. 10, no. 3, pp. 6353-6362
19. Bhargavi, R & Vaidehi, V 2013, "Semantic Intrusion Detection with Multisensor Data Fusion using Complex Event Processing", Sadhana – Academy Proceedings in Engineering Sciences, ISSN: 0256-2499, vol. 38 , no. 2, pp. 169 – 185. Impact factor. 0.393
20. Bhargavi, R, Vaidehi, V, & Sri Ganesh, K 2012, "Efficient Intrusion Detection System Based on Pattern Matching and State Transition Analysis", European Journal of Scientific Research, ISSN: 1450-216X, vol. 80, no.2, pp.224-236. Impact factor.0.493
21. Bhargavi, R, & Vaidehi, V 2011, "Complex Event Processing for Object Tracking and Intrusion Detection in Wireless Sensor Networks", International Journal of Computer Theory and Engineering (IJCTE), ISSN: 1793-8201, vol. 3, no. 3, pp. 434-438. Impact factor. 1

International Conferences

1. Bhargavi, R, Vaidehi, V, Bhuvaneswari, PTV, Balamurali, P & Girish Chandra 2010, "Complex Event Processing for Object Tracking in Wireless Sensor Networks", IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology proceedings (WI-IAT), Toronto, pp. 211-214.
2. Bhargavi, R, Vaidehi, V, Bhuvaneswari, PTV, Balamurali, P & Girish Chandra 2010, "Complex Event Processing for Object Tracking and Intrusion Detection in Wireless Sensor Networks", IEEE proceedings of International Conference on Control, Automation, Robotics and Vision (ICARCV), Nanyang Technological University ,Singapore, pp. 848-853.
3. Poorani, M, Vaidehi, V, Rajesh, M, Bhargavi, R, Balamuralidhar, P & Grish Chandra 2010, "Semantic Intruder Detection System in WSN", in proceedings of IEEE International Conference on Advanced Computing (ICoAC), Chennai, India, pp.26-32.
4. Bhargavi, R, Sri Ganesh, K, Raja Sekar, M, Rabinder Singh, P & Vaidehi, V 2011, "An Integrated System of Complex Event Processing and Kalman Filter for Multiple People Tracking in WSN", proceedings of IEEE International Conference on Recent Trends in Information Technology (ICRTIT), Chennai, India, pp.890-895.
5. Vaidehi, V, Bhargavi, R, Kirupa Ganapathy, Sweetlin Hemalatha, C & Bhuvaneswari, PTV 2011, "Complex Event Processing for Sensor Networks - Geriatric Health Care Monitoring", in proceedings of Geo Summit 2011 organized by Sathyabama university in association with DST, Chennai, India.
6. Palaniappan, Adithyan, Bhargavi, R, & Vaidehi, V 2012, "Abnormal human activity recognition using SVM based approach", proceedings of IEEE International Conference on Recent Trends in Information Technology (ICRTIT 2012), Chennai, India, pp. 97-102, April 19-21.
7. Vaidehi, V, Bhargavi, R, Ganapathy, Kirupa, Sweetlin Hemalatha, C 2012, "Multi-sensor based in-home health monitoring using Complex Event Processing", proceedings of IEEE International Conference on Recent Trends in Information Technology (ICRTIT 2012), Chennai, India, pp.570-575, April 19-21.
8. Srinivasan, S, Bhargavi, R, Vaidehi, V, Ram Srivatsa, K & Ram Kumar 2013, "A Regression Based Adaptive Incremental Algorithm For Health Abnormality Prediction",

proceedings of IEEE International Conference on Recent Trends in Information Technology (ICRTIT 2013), vol., no., pp.557,561, 25-27 July 2013, Chennai, India.
9. Srinivasan, S.; Bhargavi, R.; Vaidehi, V.; Srivatsa, K.R.; Kumar, I.R., "Efficient organization of health data using modified range based multidimensional R-Trees," Recent Trends in Information Technology (ICRTIT), 2013 International Conference on , vol., no., pp.557,561, 25-27 July 2013
10. Bhargavi, R.; Pathak, R.; Vaidehi, V., "Dynamic complex event processing — Adaptive rule engine," Recent Trends in Information Technology (ICRTIT), 2013 International Conference on , vol., no., pp.189,194, 25-27 July 2013
11. Vaidehi, V, Vardhini, M, Yogeshwaran, H, Inbasagar, G, Bhargavi, R & Sweetlin Hemalatha, C 2013, "Agent Based Health Monitoring of Elderly People in Indoor Environments Using Wireless Sensor Networks" in procedia Computer Science, The 4th International Conference on Ambient Systems, Networks and Technologies (ANT 2013), vol.19, pp. 64-71.
12. Raghuraman, K.; Senthurpandian, M.; Shanmugasundaram, M.; Bhargavi; Vaidehi, V., "Online Incremental Learning Algorithm for anomaly detection and prediction in health care," Recent Trends in Information Technology (ICRTIT), 2014 International Conference on , vol., no., pp.1,6, 10-12 April 2014
13. Jothi Prabha; Bhargavi R., "Prediction of Dyslexia using machine learning – A research travelogue", International conference on microelectronics computing and communication systems (MCCS), 2018
14. Jothi Prabha A., Bhargavi R. (2019) Prediction of Dyslexia Using Machine Learning—A Research Travelogue. In: Nath V., Mandal J. (eds) Proceedings of the Third International Conference on Microelectronics, Computing and Communication Systems. Lecture Notes in Electrical Engineering, vol 556. Springer, Singapore.
15. B. R, H. S. Dayal and K. Sankpal, "Emotion Classification Using Single-Channel EEG," 2019 International Conference on Computing, Power and Communication Technologies (GUCON), NCR New Delhi, India, 2019, pp. 360-366.
16. Swati Laxmi Sahu, Renta Chintala Bhargavi, Prediction of Diseases in Potato Plant using Pre-trained and Traditional Machine Learning Models, 4th International Conference for Emerging Technology (INCET), 2023, 1-8

Personal Details

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