Curriculum Vitae

Dr. S. Dhamodharavadhani

E-Mail: vadhanimca2011@gmail.com

Mobile No: 6382667211, 7448533412

Google Scholar: Citations - 345; h-index - 10; i10-index – 10

Research Gate: Citations – 314; h-index – 10; Research Interest Score- 373.3

Patent Published: 2 Indian Patent

Google Scholar: https://scholar.google.com/citations?user=QTTRRTgAAAAJ&hl=en

ORCID: https://orcid.org/0000-0001-8239-1276

Scopus: https://www.scopus.com/authid/detail.uri?authorId=57189589564

Research Gate: https://www.researchgate.net/profile/S-Dhamodharavadhani-2/research

Web of Science: https://www.webofscience.com/wos/author/record/L-8855-2014

Loop: https://loop.frontiersin.org/people/1013591/overview

DBLP: https://dblp.uni-trier.de/pid/282/5897.html

Education

Ph.D.: Nov 2015-Nov 2022 -Periyar University, Salem

M.Phil.: 2015-Mahendra Arts and Science College, Namakkal

M.C.A: 2013-Sengunthar Arts and Science College, Namakkal

B.C.A: 2011-Sengunthar Arts and Science College, Namakkal

Honors and Awards

- **UGC: Special Assistance Programme (SAP),** (DRS-II) Research Project, Department of Computer Science, Periyar University, Salem, India (Dec 2018 – Nov 2022)
- Acted as Resource person for a Guest Lecture on Data Science with Linear Regression Model for India COVID-19 using R Programming" 9th June 2020, Sharad Institute of Technology College of Engineering and Technology, Yadrav-Ichalkaranji, Maharashtra.

Research Experience

8 years M.Phil. (2014-2015); Ph.D. (2015-2023)

Editorial Contribution

Role: Reviewer

Peer-Reviewed Articles for:

- Frontiers in Public Health - Frontiers
- The Journal of Supercomputing – Springer
- Soft Computing – Springer

Peer-Reviewed Book Chapter for:

- Handbook of Research on Big Data Clustering and Machine Learning-IGI Global

Publications

24 Research Publications

9 Research Articles

Suyel Namasudra, S. Dhamodharavadhani, R. Rathipriya, Ruben Gonzalez Crespo, and Nageswara Rao Moparthi. Enhanced Neural Network-Based Univariate Time-Series Forecasting Model for Big Data. Big Data.doi.org/10.1089/big.2022.0155 **(SCIE, Scopus) Impact Factor: 4.426**

Rathipriya, R., Abdul Rahman, A. A., Dhamodharavadhani, S., Meero, A., & Yoganandan, G. (2022). Demand forecasting model for time-series pharmaceutical data using shallow and deep neural network model. Neural Computing and Applications. doi:10.1007/s00521-022-07889-9 **(SCIE, Scopus) Impact Factor: 5.102**

Dhamodharavadhani, S., & Rathipriya, R. (2021). Novel COVID-19 Mortality Rate Prediction (MRP) Model for India Using Regression Model with Optimized Hyperparameter. Journal of Cases on Information Technology, 23(4), 1-12. doi:10.4018/jcit.20211001.oa1. **(ESCI, Scopus)**

Dhamodharavadhani, S., & Rathipriya, R. (2021). COVID-19 mortality rate prediction for India using statistical neural networks and gaussian process regression model. African Health Sciences, 21(1), 194-206. doi:10.4314/ahs.v21i1.26. **(SCI, Scopus) Impact Factor: 1.108**

Namasudra, S., Dhamodharavadhani, S., & Rathipriya, R. (2021). Nonlinear Neural Network Based Forecasting Model for Predicting COVID-19 Cases. Neural Processing Letters. doi:10.1007/s11063-021-10495-w. **(SCIE, Scopus) Impact Factor: 2.565**

Dhamodharavadhani, S., Rathipriya, R., & Chatterjee, J. M. (2020). COVID-19 Mortality Rate Prediction for India Using Statistical Neural Network Models. Frontiers in Public Health, 8. doi:10.3389/fpubh.2020.0044. **(SCIE, Scopus) Impact Factor: 6.461**

Selvaraj, S., Dhamodharavadhani, S., & Rathipriya, R. (2021). Reduce Data Transmission Energy in Wireless Body Area Network using LRNN Prediction Model. International Journal of Future Generation Communication and Networking, 14(1). **(Web of Science)**

Devipriya, R., Dhamodharavadhani, S., & Selvi, S. (2021). SEIR Model for COVID-19 Epidemic Using Delay Differential Equation. Journal of Physics, 1761, doi: 10.1088/1742-6596/1767/1/012005. **(Scopus, Web of Science)**

Kaleeswaran, V., Dhamodharavadhani, S., & Rathipriya, R. (2020). Multi-Crop Selection Using Firefly Optimization. International Journal of Grid and Distributed Computing, 13(2), 2682-2696. **(Web of Science)**

Book Chapters

8 Book Chapters

Dhamodharavadhani, S., & Rathipriya, R. (2022). Pattern analysis of COVID-19 death and recovery cases data of countries using greedy biclustering algorithm. In Subhendu Kumar Pani, Somanath Tripathy (eds) Applications of Machine Learning in Big-Data Analytics and Cloud Computing, River Publishers, pp.1–21, doi.org/10.1201/9781003337218-1 **(Scopus)**

Dhamodharavadhani S., Rathipriya R. (2022) Computational Intelligence Based Hybrid Hyperparameter Tuned Prediction Techniques for COVID-19 Epidemiological Data. In: Nayak J., Naik B., Abraham A. (eds) Understanding COVID-19: The Role of Computational Intelligence. Studies in Computational Intelligence, vol 963. Springer, Cham. https://doi.org/10.1007/978-3-030-74761-9_16**.(Web of Science, Scopus)**

Dhamodharavadhani S., Rathipriya R. (2021) Biclustering Analysis of Countries Using COVID-19 Epidemiological Data. In: García Márquez F.P., Lev B. (eds) Internet of Things. International Series in Operations Research & Management Science, vol 305. Springer, Cham. https://doi.org/10.1007/978-3-030-70478-0_6. **(Web of Science, Scopus)**

Dhamodharavadhani S., and Rathipriya R. (2020). Forecasting Dengue Incidence Rate in Tamilnadu using ARIMA Time Series Model, Machine Learning *for Healthcare: Handling and Managing,* edited by Dac-Nhuong Le, Jyotir Moy Chatterjee, Abhishek Kumar Pandey, Rashmi Agrawal, Pramod Singh Rathore, CRC Press Taylor & Francis Group.

Sivabalan S., Dhamodharavadhani S., and Rathipriya R (2020). Arbitrary Walk with Minimum Length Based Route Identification Scheme in Graph Structure for Opportunistic Wireless Sensor Network, Swarm Intelligence for Resource Management in Internet of Things, edited by Aboul Ella Hassanien, Ashraf Darwish, Elsevier **(Scopus)**

Dhamodharavadhani S, and Rathipriya R (2020). Enhanced Logistic Regression (ELR) Model for Big Data, *Handbook of Research on Big Data Clustering and Machine Learning,* edited by Fausto Pedro Garcia Marquez, IGI Global, pp. 152-176. http://doi:10.4018/978-1-7998-0106-1.ch008

Dhamodharavadhani S., and Rathipriya R (2020). Variable Selection Method for Regression Models Using Computational Intelligence Techniques, *Handbook of Research on Machine and Deep Learning Applications for Cyber Security,* edited by Padmavathi Ganapathi and D. Shanmugapriya, IGI Global, 2020, pp. 416-436. http://doi:10.4018/978-1-5225-9611-0.ch019

Conference Proceedings

7 Conference Proceedings

Kaleeswaran, V., Dhamodharavadhani, S., & Rathipriya, R. (2021). Rainfall-based crop selection model using mapreduce-based hybrid Holt Winters algorithm. 3rd International (Virtual) Conference on Recent Trends In Advanced Computing (ICRTAC-2020), Vellore Institute of Technology, Chennai, India **(Scopus)**

Kaleeswaran, V., Dhamodharavadhani, S., & Rathipriya, R. (2020). A Comparative Study of Activation Functions and Training Algorithm of NAR Neural Network for Crop Prediction. 2020 4th International Conference on Electronics, Communication and Aerospace Technology (ICECA). organized by RVS Technical Campus, India **(Scopus)**

Dhamodharavadhani, S., & Rathipriya, R. (2018). Region-Wise Rainfall Prediction Using MapReduce Based Exponential Smoothing Techniques. 2nd International Conference on Big Data and Cloud Computing (ICBDCC'18). Karunya Institute of Technology & Sciences, Coimbatore **(Scopus)**

Dhamodharavadhani, S., & Rathipriya, R. (2018). Unlock different V's of big data for analytics. First International Conference on Computer Vision, Networks andInformatics (ICCVNI 2018) Organized by The Gandhigram Rural Institute (Deemed to be University), Gandhigram.

Kaleeswaran, V., Dhamodharavadhani, S., & Rathipriya, R. (2021). Multi-crop Selection Model Using Binary Particle Swarm Optimization. International Conference on Innovative Data Communication Technologies and Application (ICIDCA 2019) Organized by RVS College of Engineering and Technology, Coimbatore. **(Scopus)**

Dhamodharavadhani, S., & Rathipriya, R. (2016). European Countries' Climatic Analysis and Forecasting, Intelligence Computing and Applications (ICICA), organized by D. Y. Patil College Of Engineering, Pune. **(Scopus)**

Dhamodharavadhani, S., & Rathipriya, R. (2016). A pilot study on climate data analysis tools and software, Online International Conference on Green Engineering and Technologies (IC-GET), organized by Karpagam College Of Engineering, Coimbatore **(Scopus)**

Journals Accepted

2 Accepted Research Articles

Dhamodharavadhani, S., & Rathipriya, R. Vaccine Rate Forecast for COVID-19 in Africa using Hybrid Forecasting Models, *African Health Sciences*- **Accepted May 2022 (SCI, Scopus) Impact Factor: 1.108**

Dhamodharavadhani, S. and Rathipriya, R. Enhanced Regression Model Using Cluster Based Sampling Techniques, *Journal of Intelligent & Fuzzy Systems* **Accepted September 2022 (SCI, Scopus) Impact Factor: 1.737**

Journals in Review

2 Research Articles in Review

Dhamodharavadhani, S. and Rathipriya, Data Imputation Model for Internet of Medical Things (IoMT) Using Nonlinear Autoregressive Exogenous (NARX) network Model, *Wireless Personal Communications* **In Review (SCI, Scopus) Impact Factor: 2.017**

Indian Patent

2 Patent

Indian Patent "Iomt Based Wearable Patient Monitoring and Critical Condition Detection System for Covid Patients" Date of Filing: 03/09/2020, Date of Publication: 11/09/2020

Indian Design Patent "Artificial Intelligence Based Wrist Band for Monitoring Covid Patients" Date of Filing: 6/05/2022 Date of Publication: 6/05/2022.

International Short-term Courses

5 International short-term Courses

- "A Short-term course on Dynamic Data Assimilation: Theory and Applications", **Indian Institute of Tropical meteorology, Pune,** 26th June to 7th July 2017
- "2nd SERB School on Computational Meteorology", **KL University, Vijayawada,** 23rd October to 15th November 2017
- Online Training Programme "Digital tools for Writing, Authoring & Reviewing Manuscripts", **Electronics & ICT Academies MNIT Jaipur, NIT Patna & IIT Guwahati,** 21st September and 2nd October 2020
- Demonstrating competence in the completion of "Fundamentals of Deep Learning for Computer Vision", **NVIDIA Deep Learning Institute, 2**3rd December 2019

- Successfully completed "R Training", **Spoken Tutorial Project, IIT Bombay**, 25thApril 2020.

Swayam Courses

3 Courses

- Computer Networks, 23rd Aug to 28th Nov 2018, **36 Hours**
- Climate Change (ANNUAL REFRESHER PROGRAMME IN TEACHING (ARPIT) March 2019), 1st Nov to 28th Feb, 2019, **40 Hours**
- Educational Research (ANNUAL REFRESHER PROGRAMME IN TEACHING (ARPIT) March 2019),1st Nov 2018 to 28th Feb, 2019, **40 Hours**

International FDP

5 FDP

- Faculty Development Programme "Data Science using Python", Mohamed Sathak A J College of Engineering, Chennai, 25-30 May 2020
- Faculty Development Programme "Emerging Trends in Information Technology", IITM, Janakpuri, New Delhi., 20-25 July 2020.
- Two Week International Faculty Development Programme on "The Era Of Change - Recent Advancements Of Machine Learning In Terms Of AI & IOT", SRM Institute of Science and Technology, Chennai, 12-25 July 2021.
- Faculty Development Programme "Data Science & Big Data Analytics", Bannari Institute of Technology, Coimbatore, 11-17 September 2017
- Faculty Development Programme "Data Science & Optimization" (DSO-2018), Periyar University, Salem 28th May 2018- 11th June 2018

Research Workshops

- Online Workshop on "Scientific Writing for Journals" organised by Spring Nature, 15th May 2020
- Successfully Completing "Basic Series" of the Web of Science Training & Certification Program 2020, 7th September 2020
- Online International virtual Workshop on "LoRaWan Demonstration and Intellectual Property Rights – Patent", Easwari Engineering College, Chennai, 26th July 2020.

Online Courses

19 Online Certificate Courses

Machine Learning Courses

- "Machine Learning with R (ML0151EN)" course on cognitiveclass.ai Powered by IBM Developer Skills Network

Big Data Courses

- "MapReduce and YARN (BD0115EN)" course on cognitiveclass.ai Powered by IBM Developer Skills Network
- "Accessing Hadoop Data Using Hive (BD0141EN)" course on cognitiveclass.ai Powered by IBM Developer Skills Network
- "Spark Fundamentals I (BD0211EN)" course on cognitiveclass.ai Powered by IBM Developer Skills Network
- Analyzing Big Data in R using Apache Spark course on cognitiveclass.ai Powered by IBM Developer Skills Network
- "Watson Analytics 101" course on cognitiveclass.ai Powered by IBM Developer Skills Network

Data Science Courses

- "Predictive Modeling Fundamentals I (PA0101EN)" course on cognitiveclass.ai Powered by IBM Developer Skills Network
- "Text Analytics 101" course on cognitiveclass.ai Powered by IBM Developer Skills Network
- "Data Visualization with R(DV0151EN)" course on cognitiveclass.ai Powered by IBM Developer Skills Network
- "Introduction to Data Science (DS0101EN)" course on cognitiveclass.ai Powered by IBM Developer Skills Network
- "Python 101 for Data Science" course on cognitiveclass.ai Powered by IBM Developer Skills Network
- "Data Science Hands-On with Open-Source Tools" course on cognitiveclass.ai Powered by IBM Developer Skills Network
- "Python 101 (PY0101EN)" course on cognitiveclass.ai Powered by IBM Developer Skills Network
- "R 101 (RP0101EN)" course on cognitiveclass.ai Powered by IBM Developer Skills Network

Fundamentals Courses

- "Introduction to R" - Data Camp Course
- "Introduction to Linux" - Udemy
- "Secret Sauce of Great Writing" - Udemy
- "ITIL V3 Foundations: Fundamentals & Definitions" – Udemy

Climate Research Courses

- "Introduction to Applied Bayesian Statistics for Climate Research" - M2LAB.ORG Science Education, Credit Hours: 40, Australia

Research Work

- **M.Phil. Research**:

  Title: "Bee Colony Optimization for Opportunistic Forwarding with Partial Centrality"

  Objective: The Core objective is to find the initial centroid for clusters in opportunistic forwarding with partial centrality using Bee Colony algorithm. The proposed approach to create a multi agent system capable to successfully solve difficult combinatorial optimization problem.

- **Ph.D. Research**:

  Title: "Computational Intelligence Based Prediction Models for Epidemiological Data"

  Objective: The core objective is to predict the incidence and prevalence of infectious diseases using computational intelligence techniques. The prediction is performed using time-series data for disease incidence rate. And also, to forecast the incidence and prevalence of the most popular infectious diseases in south Asian countries, such as pneumonia, Zika virus, Ebola, dengue, and COVID-19.

  The contributions are developing the Computational Intelligence techniques for Epidemiological Data. The Key contributions are Hybrid Swarm Intelligence-based Statistical Prediction Model, Hyperparameter Tuned Shallow Neural Network Models, Hyperparameter Tuned Regression Models, Real-Time Dengue Prediction Models, and Dengue Outbreak Forecasting (DOF) tool.

Area of Interest

Data Mining, Data Analytics, Predictive Analytics, Big Data, Soft Computing, Bio-inspired Optimization

Strength

Punctual; Dedicated; Optimistic; Hard Work; Smart Work; Patient; Respectful.

Skills

Programming Skills: Python, R, Matlab

Analytics Skills: Data Analytics, Text Analytics, Predictive Analytics

Visualization Skills: Python, R, Tableau, Excel, Power BI, Minitab

Design Skills: Photo Editing, Photoshop, Dreamweaver, Infographics

Web Development Skills: Graphic User Interfaces (GUI), HTML

Personal Details

Name : S. Dhamodharavadhani

Father's Name : Mr. A. Seetharaman

Mother's Name : Mrs. S. Kandammal

Husband's Name : Dr. M. Kasiviswanathan

DOB : 09.08.1990

Gender : Female

Marital Status : Married

Nationality : Indian

Religion : Hindu

Languages Known : English & Tamil

Contact Address: 55, Ramamoorthi Nagar, Vellandivalasu, Idappadi, Salem-637105.

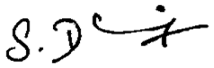
Research Experience: 8 years

Project Fellow: 4 years (UGC-SAP)

I hereby declare that the above-furnished particulars are true to the best of my knowledge and belief.

Date: 23-03-2023

Yours Faithfully



Place: Salem

(S.Dhamodharavadhani)