Dr. BALIKA J. CHELLIAH,

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Dr.Balika J. Chelliah is working as an Professor & VP-Admin in the Department of CSE at SRMIST, Ramapuram campus. He holds a Ph. D degree in the field of **Service Oriented Architecture (SOA)** , SRM IST in 2018. He has 18 years of Industry and teaching experience with good programming skills. He is a recognized supervisor under SRMIST and guiding 6 scholars at present. He has engaged in a consultancy work agreement with **AIP RIKEN, Tokya, Japan and has received a payment 799,500 JPY** for the services provided (RIKEN is a prominent research institute in Japan, renowned for its contributions to various scientific fields**)**. He is certified in various courses from Coursera, ICT Academy and NPTEL. He has published articles in National and International Journals, Conferences and symposiums. He is serving as Doctoral Committee Member for Scholars in various reputed Universities. He has authored textbooks and book chapters. He has submitted Funded Project Proposals to DST, SERB, TNSCST, National Cyber Research & Innovation Centre (NCR&IC) and ICMR. He is a professional member of ISCA, CSI, and **All India Council For Technical Skill Development (AICTSD)**. He is acting as a reviewer in Inder science journals, IGI Global Book Series , SPRINGER Nature Journals. He has filed and published patents and has one international copyright. He is the Board of Studies member at various Engineering colleges.

Area of Research:

Artificial Intelligence, Machine Learning

Selected Publications:

1. Prabu, M., & Chelliah, B. J. (2023). An intelligent approach using boosted support vector machine based arithmetic optimization algorithm for accurate detection of plant leaf disease. Pattern Analysis and Applications, 26(1), 367-379. **(SCI Indexed)**
2. Raman, P., & Chelliah, B. J. (2023). Enhanced reptile search optimization with convolutional autoencoder for soil nutrient classification model. PeerJ, 11, e15147.
3. Aarthi, B., & Chelliah, B. J. (2023). HATDO: hybrid Archimedes Tasmanian devil optimization CNN for classifying offensive comments and non-offensive comments. Neural Computing and Applications, 1-21. **(SCI Indexed)**

4. Chelliah, B. J., Harshitha, K., & Pandey, S. (2023). Adaptive and effective spatio-temporal modelling for offensive video classification using deep neural network. International Journal of Intelligent Engineering Informatics, 11(1), 19-34. **(WoS Indexed)**

5. Chelliah, B. J., Malik, M. M., Kumar, A., Singh, N., & Regin, R. (2023). Similarity-based optimised and adaptive adversarial attack on image classification using neural network. International Journal of Intelligent Engineering Informatics, 11(1), 71-95. . **(WoS Indexed)**

6. Aarthi, B., & Chelliah, B. J. (2022). Deep recurrent neural network-based Aquila optimization-based online shaming emotion analysis. Concurrency and Computation: Practice and Experience, 34(11), e6882. **(SCI Indexed)**

7. Prabavathi, R., & Chelliah, B. J. (2022). A Comprehensive Review on Machine Learning Approaches for Yield Prediction Using Essential Soil Nutrients. Universal Journal of Agricultural Research, 10(3), 288-303. **(SCI Indexed)**

8. Chelliah, B. J., Latchoumi, T. P., & Senthilselvi, A. (2022). Analysis of demand forecasting of agriculture using machine learning algorithm. Environment, Development and Sustainability, 1-17. **(SCI Indexed)**

9. Prabu, M. and Chelliah, B.J., 2022. Mango leaf disease identification and classification using a CNN architecture optimized by crossover-based levy flight distribution algorithm. Neural Computing and Applications, 34(9), pp.7311-7324. **(SCI Indexed)**

10. Prabu, M., & Chelliah, B. J. (2022, August). Develop Hybrid Wolf Optimization with Faster RCNN to Enhance Plant Disease Detection Performance Analysis. In International Conference on Computational Intelligence and Data Engineering (pp. 243-253). Singapore: Springer Nature Singapore. **(Scopus Indexed)**

11. Chelliah, Balika J., Anand Sasidharan, Dharmesh Kumar Singh, and Nilesh Dangi. "A Collaborative and Early Detection of Email Spam Using Multitask Learning." ECS Transactions 107, no. 1 (2022): 4933. **(Scopus Indexed)**

12. Prabavathi, R., J. Shiny Duela, Balika J. Chelliah, S. Mohana Saranya, and A. Sheela. "An Intelligent Stabilized Smart Sewage Treatment Plant (STP)." In 2021 4th International Conference on Computing and Communications Technologies (ICCCT), pp. 381-385. IEEE, 2021. **(Scopus Indexed)**

13. Prabu, M.Balika J Chelliah, 2021. A Survey: Benefits of Mango Leaves and Techniques Used for Evaluvation of Diseases Affecting Mango Leaves. INFORMATION TECHNOLOGY IN INDUSTRY, 9(2), pp.507-512. WOS, 2021. **(WoS Indexed)**

14. Judy Flava, B,Balika J Chelliah, 2021. Survey of Triangle Security in Cloud. INFORMATION TECHNOLOGY IN INDUSTRY, 9(2), pp.499-506. WOS, 2021. **(WoS Indexed)**

15. Balika. J.Chelliah, M.S Antony Vigil and M. S. Bennet Praba. "Node clone detection using a stable overlay network." Vol 10, No 1 PP:316 – 322, International Journal of Electrical and Computer Engineering (IJECE)p-ISSN 2088-8708, e-ISSN 2722-2578, Feb 2020. **(Scopus Indexed)**

16. Balika J. Chelliah, K. Sathish, S. Arun Kumar "Service selection in service oriented architecture using probabilistic approach and asynchronous queues with interceptor

validation" Vol 10,No 1 PP:396 -406, International Journal of Electrical and Computer Engineering (IJECE)p-ISSN 2088-8708, e-ISSN 2722-2578, Feb 2020. **(Scopus Indexed)**

17. Chelliah, B.J., Vishal, K.S., Rengaswamy, N., Deepak, O.," A unified framework for analysis of android vulnerability based on consent model", Journal of Advanced Research in Dynamical and Control Systems (5 Special Issue), pp. 879-884, 2020. **(Scopus Indexed)**

18. Gowri Shankar V, Arun kumar S, Dr. Balika J Chelliah, "Multiple Object Detection Using Mask R-CNN in Deep Neural Network", 2020. **(Scopus Indexed)**

19. Balika J Chelliah,"An Optimized and Unique Methodology for Software Test Case Automation Strategy." (2020), International Journal of Advanced Trends in Computer Science and Engineering, Volume 9 No.2,, ISSN 2278-3091, Mar - Apr 2020. **(Scopus Indexed)**

20. Dr.Balika J.Chelliah, T C.A.Ananthajith, Anoushka Dutta, Aditya Sugandhi,"Review Classification and False Feedback Detection using Machine Learning" Vol. 29 No. 04: International Journal of Advanced Science and Technology, 2020. **(Scopus Indexed)**

21. Balika J. Chelliah, Vishal Chauhan, Shivendra Mishra, Vivek Sharma (2019) , "Advancement of Driverless Cars and Heavy Vehicles using Artificial Intelligence (Object Detection) ", International Journal of Engineering and Advanced Technology , ISSN: 2249-8958, 9(1), pp. 6183-6186**(Scopus Indexed)**

22. Nitesh Ramakrishnan, Anandhanarayanan Kamalakannan, Balika J Chelliah, Govindaraj Rajamanickam "Computer vision framework for visual sharp object detection using deep learning model International Journal of Engineering and Advanced Technology" (IJEAT) ISSN: 2249-8958, Volume-8 Issue-4, Apr 2019. **(Scopus Indexed)**

23. Cheliah, B.J., Bompelli, S., Sampath, M., Ghogre, M., Ajithkumar, A., "Robust AI digital copyright protection scheme", International Journal of Innovative Technology and Exploring Engineering, ISSN: 22783075, Volume 8, Issue 6, April 2019, Pages 100-104 **(Scopus Indexed)**

24. Balika J. Chelliah, Vijay Krishna Vallabhaneni, Saikiran Reddy Lenkala, Mithran J, M Kesava Krishna Reddy "3D character generation using PCGML" International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-8 Issue-6S, Apr 2019. **(Scopus Indexed)**

25. Balika J. Chelliah, Ashwin P Ajith, Chirag G Samtani, Dipyaman Paul, Chaitanya Bachhav, " Security Implications in Cyber Physical Systems", International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume- 8 Issue-6S, Apr 2019. **(Scopus Indexed)**

26. Balika J.Chelliah, B.J., Jain, A., Singh, U., Mehta, G.," Text and data formatting for machine learning", International Journal of Innovative Technology and Exploring Engineering 9(1), pp. 2756-2760, 2019. **(Scopus Indexed)**

27. Kumaran, G., Chelliah, B.J. and Arun Kumar, S., 2021. VESDNet: Deep Vessel Segmentation (U) Network for the Early Diagnosis of Diabetic Retinopathy. In

International Virtual Conference on Industry 4.0 (pp. 375-385). Springer, Singapore, 2021. **(Scopus Indexed)**

Book Chapters:

1. Tanya, R., & Chelliah, B. J. (2022). A Comprehensive Study on Cybersecurity Challenges and Solutions in an IoT Framework. In Towards a Wireless Connected World: Achievements and New Technologies (pp. 105-137). Springer, Cham.

2. Aarthi, B., Jeenath Shafana, N., Flavia, J., & Chelliah, B. J. (2022). A hybrid multiclass classifier approach for the detection of malicious domain names using RNN model. In Computational Vision and Bio-Inspired Computing: Proceedings of ICCVBIC 2021 (pp. 471-482). Singapore: Springer Singapore.

3. Chelliah, B. J., Arunkumar, S., Prabavathi, R., & Aarthi, B. (2021). A Robust Statistical CNNCTC-Based AI Model for Tracking and Monitoring COVID-19. In International Virtual Conference on Industry 4.0: Select Proceedings of IVCI4. 0 2020 (pp. 291-300). Springer Singapore.

Book Published:

1. Published a book titled on "Machine Learning" with SHANLAX Publications, **ISBN: 978-93-91373-85-6**

2. Published a book titled on "Deep Learning with Data Science" with SHANLAX Publications, **ISBN: 978-93-95422-60-4**

Submitted Proposals:

1. Submitted a proposal and completed PAC level presentation in National Cyber Research & Innovation Centre (NCR&IC) (Under I4C Scheme of MHA)

2. Submitted a Project proposal to DST: Science and Heritage Research Initiative (SHRI) titled on "DEVELOPMENT OF MOBILE USER INTERFACE FOR ANCIENT TAMILI TEXT RECOGNITION, CLASSIFICATION, AND TRANSLATION USING DEEP LEARNING APPROACH"

3. Submitted ICMR proposal titled on "COMPUTER-VISION BASED AI TECHNIQUE TO PREVENT BRAIN STROKE FOR DIABETIC PATIENTS AT EARLY STAGE" under the scheme "Call for Ad-hoc Research Proposals "Reproducible AI in Medicine and Health"

4. Submitted a Project proposal to TNSCST under the SCIENCE AND TECHNOLOGY

PROJECT scheme on "CROSS-REGIONAL CROP YIELDING RECOMMENDATION SYSTEM WITHIN TAMILNADU USING IOT"

5. Submitted a Project Proposal to SEED under the scheme :Technology Interventions for Disabled and Elderly (TIDE) "An acoustic voice bot enabled transportation for elderly and visually Impaired using NLP and cloud for on-demand cabs"

6. Submitted a Project Proposal to DST: MATRICS Short-term special call on COVID-19 "A ROBUST STATISTICAL AI MODEL FOR TRACKING AND MONITORING COVID-19"

Consultancy and MoU:

1. **Consultancy:** Remote Collaboration between SRM IST , Ramapuram campus and AIP Riken Research Institute , Tokyo, Japan and has received a payment 799,500 JPY for the services provided.

2. Signed **MoU** with Compunet Connections Pvt.Ltd and conducted a One-week FDP for the Department Faculties.

International Copyright:

1. Dr. Balika J Chelliah, et al., Shiny, "Advance Programming Procedural Lab Manual, B.Tech CSE with Specialization AIML", International Copyrights, October 2022, Diary Number – 475/2021-CO/L

2. Dr. Balika J Chelliah, et al., Shiny, CSE Students Technical club STC- CSE Coterie, International Copyrights, October 2022, Diary Number – 4746/2021-CO/L

Patents:

1. **Indian Patent Grant** : A SYSTEM FOR WASHING AND DRYING OF GARMENTS AND A METHOD THERE OF, 435072, Granted on: 16-06-2023

2. **Sign Language Conversion in Online Streaming Presentation for Hearing and Speech Impairment**, 202341027374, Publication Date: 05/05/2023

3. **The Design And Development Of A Horticulture Monitoring System**, 202241008755- Publication Date: 04/03/2022

4. **Accident Detection System (Ads) Using G-Force**, 202241028175, Publication Date:17/06/2022.

5. **Closed/ MOODU - Automatic Temporary Infrastructure in Real-Time Automatic Artificial Intelligence** (MOODU-TIRAI), 202241047135, Publication Date: 05/05/2023, 18-08-2022

6. **ID Tracking to 4G,5G Mobile with intelligent security using deep machine learning programming**, 202041024065, Published date: 19-06-2020

7. Digital Gold Asessing and Money Lending Machine, 201941049955 A, Published Date:20-05-2020

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