Faculty Profile

Dr. M. Roshni Thanka
Assistant Professor,
Department of Data Science and Cyber Security
email id: roshni@karunya.edu

Academic Background

Degree	University	Year
Ph.D	Anna university	2018
M.E	Arulmigu Meenakshi Amman College of Engineering, Kancheepuram.	2008
B.E	Noorul Isalam College of Engineering Thuckalay	2006

Courses Taught

- Machine Learning Techniques
- Introduction to Data Science
- Object Oriented Programming
- Python Programming
- Data Structures and Algorithms
- Design and Analysis of Algorithms
- System Software and Compiler Design
- Programming for Problem Solving
- Web Technology
- C# and .NET programming
- Cryptography and Network Security

Research Interests

- Machine Learning
- Deep Learning
- IoT
- Cloud Computing

Most recent Publications

Journal Publications

1   Ebenezer, V., Uvaana Falicica, J., Roshni Thanka, M., Rithika Baskaran, Celesty, A., Eden, S.R., "IoT-Based Wrist Band for Women Safety", Journal of Artificial Intelligence and Technology, 2023, 3(2), pp. 69-74

2   Joy, R. Priscilla, M. Roshni Thanka, Julia Punitha Malar Dhas, and E. Bijolin Edwin. "Music Mood Based Recognition System Based on Machine Learning and Deep Learning." International Journal of Intelligent Systems and Applications in Engineering 11, no. 2 (2023): 904-911.

3   Thanka, M. Roshni, E. Bijolin Edwin, V. Ebenezer, K. Martin Sagayam, B. Jayakeshav Reddy, Hatıra Günerhan, and Homan Emadifar. "A hybrid approach for melanoma classification using ensemble machine learning techniques with deep transfer learning." Computer Methods and Programs in Biomedicine Update 3 (2023): 100103

4   Joy, Priscilla, Roshni Thanka, and Bijolin Edwin. "Smart self-pollination for future agricultural-A computational structure for micro air vehicles with man-made and artificial intelligence." International Journal of Intelligent Systems and Applications in Engineering 10, no. 2 (2022): 170-174.

5   Anandan, P., S. Kirubakaran, M. Roshini Thanka, N. Geethanjali, and A. Kumar. "Architectures and uses of Artificial Neural Networks in Water Resources Engineering: Infrastructure and Applications." J Nucl Ene Sci Power Generat Techno 10, no. 9 (2021).

6   Thanka, M. Roshni, E. Bijolin Edwin, J. Shiny Duela, and V. Ebenezer. "Automated diagnosis of skin disease multiclass image classification using deep convolution neural network." Journal of Green Engineering 10, no. 10 (2020): 7646-7660

7   M. Roshni Thanka, Dr. Uma Maheswari P, E. Bijolin Edwin, "An improved efficient: Artificial Bee Colony algorithm for security and QoS aware scheduling in cloud computing environment" DOI 10.1007/s10586-017-1223-7, Cluster Computing, Springer, October 2017. (Impact Factor 2.040)

8   Bijolin Edwin, E, Umamaheswari, P & Roshni Thanka, M, 'An efficient and improved multi-objective optimized replication management with dynamic and cost aware strategies in cloud computing data center', Cluster

Computing, Springer, ISSN 1386-7857, DOI 10.1007/s10586-017-1313-6, 21 November 2017 (Impact Factor 2.040).

9 Duela, J. Shiny, M. Roshni Thanka, and Bijolin Edwin. "Improving the Reliability of Web Based Result Query Systems during High Traffic Periods." 2019, International Journal of Recent Technology and Engineering, 8(2 Special issue 5), pp. 174-180

10 Thanka, M. Roshni, P. Uma Maheswari, and E. Bijolin Edwin. "A hybrid algorithm for efficient task scheduling in cloud computing environment." International Journal of Reasoning-based Intelligent Systems 11, no. 2 (2019): 134-140.

11 Edwin, E. Bijolin, R. Thanka, and Shiny Deula. "An internet of drone (IoD) based data analytics in cloud for emergency services." Int. J. Recent Technol. Eng 7, no. 5S2 (2019): 263-367

12 Varkey, K. Ben, V. Ebenezer, E. Bijolin Edwin, K. Arul Jeyaraj, M. Varghese, and M. Roshni Thanka. "Smart aquaponics: challenges and opportunities." Annals of the Romanian Society for Cell Biology (2021): 9715-9722.

Conference Publications

1 Jenefa, A., V. Ebenezer, E. Bijolin Edwin, J. Jerlin Rajan, P. Kingston Stanley, and M. Roshni Thanka. "Automating MRI-Based Ovarian Cancer Diagnosis with a DCNN." In 2023 International Conference on Sustainable Communication Networks and Application (ICSCNA), pp. 1353-1360. IEEE, 2023

2 Roshan, S. Patric, E. Bijolin Edwin, M. Roshni Thanka, V. Ebenezer, and R. Priscilla Joy. "XGBoost Based Machine Learning Techniques for Water Quality Prediction." In 2023 International Conference on Circuit Power and Computing Technologies (ICCPCT), pp. 364-369. IEEE, 2023

3 Ebenezer, V., Arsha Anna Daniel, P. Getzi Jeba Lillipushpam, E. Bijolin Edwin, M. Roshni Thanka, and Rosebel Devassy. "Classification and Segmentation of Leaf Images based on Deep Learning for Peanut Plant Disease Detection." In 2023 4th International Conference on Electronics and Sustainable Communication Systems (ICESC), pp. 1414-1420. IEEE, 2023

4 Thanka, M. Roshni, Kommu Sri Ram, Shalem Preetham Gandu, E. Bijolin Edwin, V. Ebenezer, and Priscilla Joy. "Comparing Resampling Techniques in Stroke Prediction with Machine and Deep Learning." In 2023 International

Conference on Sustainable Computing and Smart Systems (ICSCSS), pp. 1415-1420. IEEE, 2023

5   Kirubakaran, S. Stewart, Adina Sneha, Keyuri Yalla, L. Christina Sherin, M. Roshni Thanka, and T. V. N. Bhavani. "IoT based Food Surveillance System using Cloud." In 2023 7th International Conference on Intelligent Computing and Control Systems (ICICCS), pp. 1533-1539. IEEE, 2023

6   Sadique, Sona, X. Nishanthi, V. N. Swaathy, Selva Mabisha, Roshni Thanka, and Bijolin Edwin. "Brain Tumor Segmentation and Evaluation Empowered with Deep Learning." In 2023 7th International Conference on Intelligent Computing and Control Systems (ICICCS), pp. 305-312. IEEE, 2023

7   Thanka, M. Roshni, Shalem Preetham Gandu, Beereddy Manaswini, Thirumal Reddy Bala Snehitha, Manukonda Narmada Reddy, and Kalle Nandini. "An Ensemble Approach for Cardiac Arrhythmia Detection using Multimodal Deep Learning." In 2023 International Conference on Inventive Computation Technologies (ICICT), pp. 1731-1736. IEEE, 2023

8   Chacko, Ashwathy Anda, M. Roshni Thanka, and Bijolin Edwin. "Intrusion Detection using Machine Learning Techniques: An exhaustive review." In 2023 9th International Conference on Advanced Computing and Communication Systems (ICACCS), vol. 1, pp. 1586-1589. IEEE, 2023

9   Ebenezer, V., Bijolin Edwin, D. Sharan, and Roshini Thanka. "Pose Estimation Approach for Gait Analysis using Machine Learning." In 2023 Second International Conference on Electronics and Renewable Systems (ICEARS), pp. 1071-1075. IEEE, 2023

10   Kanaga, E. Grace Mary, M. Roshni Thanka, and J. Anitha. "A Pilot Investigation on the Performance of Auditory Stimuli based on EEG Signals Classification for BCI Applications." In 2022 Third International Conference on Intelligent Computing Instrumentation and Control Technologies (ICICICT), pp. 632-637. IEEE, 2022

11   Roshni Thanka, M., Sujitha Juliet, E. Bijolin Edwin, and R. Raahul John. "Deep Learning-Based Big Data Analytics Model for Activity Monitoring of Elderly People." In Disruptive Technologies for Big Data and Cloud Applications: Proceedings of ICBDCC 2021, pp. 589-599. Singapore: Springer Nature Singapore, 2022

12 Chacko, Ashwathy Anda, Bijolin Edwin, and M. Roshni Thanka. "Detecting the Lateral Movement in Cyberattack at the Early Stage Using Machine Learning Techniques." In Disruptive Technologies for Big Data and Cloud Applications: Proceedings of ICBDCC 2021, pp. 581-588. Singapore: Springer Nature Singapore, 2022

13 Thanka, M. Roshni, E. Bijolin Edwin, R. Priscilla Joy, S. Jeba Priya, and V. Ebenezer. "Varicose Veins Chronic Venous Diseases Image Classification Using Multidimensional Convolutional Neural Networks." In 2022 6th International Conference on Devices, Circuits and Systems (ICDCS), pp. 364-368. IEEE, 2022

14 Chowdary, Vamsi Tej, M. Robinson Joel, V. Ebenezer, Bijolin Edwin, Roshni Thanka, and Arul Jeyaraj. "A Novel Approach for Effective Crop Production using Machine Learning." In 2022 International Conference on Electronics and Renewable Systems (ICEARS), pp. 1143-1147. IEEE, 2022

Book Chapter

1 D. Roshni Thanka, G. Jaspher, W. Kathrine, E. Bijolin Edwin, "Using Machine Learning for Cyber Security: Overview", AI, Machine Learning and Deep Learning: a Security Perspective, CRC Press, 2023, pp. 169-190, eBook ISBN9781003187158

2 Raj, A. Samson Arun, M. Roshni Thanka, G. Jaspher Wilisie Kathrine, and Yogesh Palanichamy. "A Secure Data Authentication-Based Aerial Intelligent Relay Road Side Unit (AIR-RSU) Framework for Intelligent Transportation System Applications." Autonomous Vehicles Volume 2: Smart Vehicles (2022): 217-236. ISBN:978-139415263-6, 978-139415225-4

Funded Projects

1 Dr.E.Grace Mary Kanaga, Dr.M.Roshni Thanka, Dr.M.S.P.Subathra, Smart Wearable Device for Early Prediction and Alerting of Epilepsy in Pre-ictal Phase using Advance, IDEAS-TIH, DST, 2972520

Patent Detail

1 Dr. V. Ebenezer, Dr. M. Roshni Thanka, Dr.E. Bijolin Edwin, Internet of Things Based Food Recommendation System, Internet of Things, 202341026636

2   Dr. V. Ebenezer, Dr.M. Roshni Thanka, Internet of Things Based Wearable Device for Women Safety, 202341051165 A

Awards

Participated as Mentor for Intel Unnati Chanllege Summer 2023 and won 1, 00,000 Rupees cash award for the team of students Samu Idhayan I, Gugasujith M, Daniel Prem.

Resource Person and Invited Talks

1. Delivered a guest lecture on the event Recent Trends in Computing and Research Methodology Competency, on the topic "Convolution Neural Network(CNN) using Python" at JayaMukhi Institute of Technological Sciences on 07.06.2020
2. Delivered a lecture on the event AICTE sponsored Six days Virtual Short Term Training Programme(STTP) on "Predictive Modeling and Data Analysis using Python Based Machine Learning Technique(Phase 1), on the topic "Journey of Machine Learning towards Deep Learning", at Sri Sai Ram Institute of Technology, An Autonomous Institution, on 7-08-2020
3. Delivered a guest lecture on the webinar conducted by Avinashilignam Institute for Home Science and Higher Education for Women on the topic "Image Classification using Deep Learning" on 01-12-2020
4. Delivered a lecture on the event AICTE Sponsored Six Days Online Short Term Training Programme on "Internet of Things Based Automation Using Machine Learning, on the topic "Applying Machine Learning to IoT Data" at Hindusthan College of Engineering and Technology on 12-07-2021.
5. Delivered a guest lecture on the webinar conducted by United Institute of Technology, Coimbatore on the topic "Insight on Machine Learning and Deep Learning With Python " on 26-08-2021
6. Delivered a guest lecture on the webinar conducted by Velammal Engineering College, Chennai on the topic "Machine Learning Techniques" on 12-04-2022

Industry Certifications Completed
   1) Completed Oracle Certified Professional Java SE 8 Programmer (OCPJP)
   2) Completed Oracle Certified Associate (OCA)
   3) Completed Google Cloud Certification