


# Kathir College of Engineering

## Faculty Profile

<p><b>Dr. M. RAJESH BABU</b>  <b>Professor and Head</b>  <b>Department of AI&amp;DS,</b>  <b>Kathir College of Engineering,</b>  <b>Neelambur,</b>  <b>Coimbatore-641062.</b></p>		
<b>Qualification</b>	B.E, M.B.A, M.E, Ph.D, D.Litt	
<b>Area of Specialization</b>	Information Security, Computer Networks	
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<b>Membership in Professional Bodies</b>	SSI, IE, ISTE, CSA, IAENG, CSI, ISRD, SEEE, GEPRA	
<b>Total Experience in (Years) :</b>		
<b>Industry</b>	<b>Academic</b>	
Experience in Years : 1.5 Years	Experience in Years : 21 years	
<b>Publication Details</b>		
<b>Number of Papers Published</b>	<b>Journal Publications</b>	
	50	<b>Conference Publications</b>
		21
<p><b>Published 8 chapters</b> in Advanced Engineering Research and Applications (Research India Publications): Volume – IV on July 2017.</p> <p>➤ <b>PUBLICATIONS IN INTERNATIONAL JOURNALS</b></p> <p><b>1. Rajesh Babu, M.,</b> Sruthi S Madhavan, Venkatesh, S, and Madan Mohan M., “Enactment of Firefly Algorithm and Fuzzy C-Means Clustering For Consumer Request and Demand Prediction”, International Research Journal of Engineering and Technology, Vol.9, No. 3, March 2022.</p>		

2. Sudhakar Sengan, Kanmani Palaniappan, Nirmaladevi Kathamuthu, Rashid Amin, **Rajesh Babu, M.**, Nik Alif, Eni Noreni and Pankaj Dadheech, "A Multi-Stakeholder Involved Effective E-Waste Management in Manufacturing Recycled Electronic Products Using Game Theory", Arabian Journal for Science and Engineering, April 2021.
3. Sudhakar Sengan, Ganga Rama Koteswara Rao, Osamah Ibrahim Khalaf, **Rajesh Babu, M.** "Markov mathematical analysis for comprehensive real-time data-driven in healthcare", Mathematics in Engineering, Science & Aerospace (MESA), Vol.12, No. 1, pp. 77-94, 2021.
4. M Karthikeyan, K Sharmilee, P M Bala Subramaniam , N B Prakash, **Rajesh Babu, M.**, V Subramaniaswamy, S Sudhakar. "Design and Implementation of ANN-Based SAPF approach for current Harmonics mitigation in Industrial Power Systems", Microprocessors and Microsystems, Vol. 77, September 2020.
5. R Thiyagarajan, **Rajesh Babu, M.** and M Moorthi "Quality of Service based Ad hoc On-demand Multipath Distance Vector Routing protocol in mobile ad hoc network", Journal of Ambient Intelligence and Humanized Computing, April 2020.
6. V R Balaji, Maheswaran S, **Rajesh Babu, M.**, M. Kowsigan, Prabhu E, Venkatachalam K. "Combining Statistical Models and Support Vector Machines for effective speech enhancement and robust communication", Microprocessors and Microsystems, Vol.23, March 2020.
7. Dr. P. Deivendran, Dr. K. Anbazhagan, P. Sailaja, Dr. E.Sujatha, **Rajesh Babu, S.** Sudhakar. "Scalability Service In Data Center Persistent Storage Allocation Using Virtual Machines", International Journal of Scientific & Technology Research, Vol.9, Issue 02, pp 2135-2139, February 2020.
8. Poongodi, S. and **Rajesh Babu, M.** "Analysis of Crop Suitability using Clustering technique in Coimbatore region of Tamil Nadu", Concurrency and Computation: Practice and Experience, Online ISSN: 1532-0634, 2019.
9. Vivekanandam, B. and **Rajesh Babu, M.** "Face Recognition from Video Frames Using Hidden Markov Model Classification Model Based on Modified Random Feature Extraction", Journal of Computational and Theoretical Nano Science, Vol.16, pp. 1-9, 2019.
10. Vivekanandam, B. and **Rajesh Babu, M.** "A Credible Way of Face Recognition and Classification System in Video Scrutiny", Journal of Web Engineering, Vol.17, No. 6, pp. 3701-3714, 2018.
11. Kiruthikka, D.C and **Rajesh Babu, M.** "Software Based Vehicle Tracking and Real Time Location Testing Using Finite Automata", Journal of Web Engineering, Vol.17, No.6, pp. 3865-3894, 2018.
12. Sreejith Vignesh, B P. and **Rajesh Babu, M.** "Classifying the malware application in the android based smart phones using ensemble ANFIS algorithm", International Journal of Networking and Virtual Organisations, Vol. 19, No. 2/3/4, 2018.
13. Thenmozhi, K. and **Rajesh Babu, M.** "Survey of various methods for diagnostic signatures for cutaneous melanoma from genetic and imaging data", International Journal of Business Intelligence and Data Mining, Vol.13 No.1/2/3, pp.40 – 51, 2018.
14. Thenmozhi, K. and **Rajesh Babu, M.** "Classification of skin disease using ensemble-based classifier", International Journal of Business Intelligence and Data Mining", Vol.28, No.4, pp.377-394, 2018.
15. Savithri M. and **Rajesh Babu, M.** "Energy-based efficient authenticated routing protocol for MANETs for DDOS attacks with minimised power consumption", International Journal of Networking and Virtual Organisations, Vol.

19, No. 2/3/4, 2018.

16. Annamalai Saravanan, R. and **Rajesh Babu, M.** “Enhanced Text Mining Approach Based on Ontology for Clustering Research Project Selection”, *Journal of Ambient Intelligence and Humanized Computing*, Doi: <https://doi.org/10.1007/s12652-017-0637-7>, 2017.
17. Annamalai Saravanan, R. and **Rajesh Babu, M.** “Text Mining Techniques and its Applications: A Survey”, *International Journal of Computer Science and Technology*, Vol.8, No. 3, pp. 33-35, 2017.
18. Moses Dian, S., Rama Doss, B. and **Rajesh Babu, M.** “Optimized On Demand Services with Incentive Mechanism in P2P Network”, *Perspectivas Em Ciencia Da Informacao*, Volume 22, SP1, pp.205-222, 2017.
19. Sreejith Vignesh, B.P. and **Rajesh Babu, M.** “Experimental Research Identifications on Malware Detection by embedding C4.5 algorithm and SVM in Smart Phones”, *Perspectivas Em Ciencia Da Informacao*, Volume 22, SP1, pp.303-317, 2017.
20. Leelavathi, B. and **Rajesh Babu, M.** “Anomaly Based Worm Detection Using Deterministic Finite Automata and Efficient Keygraph Technique”, *International Journal of Pure and Applied Mathematics*, Vol.117, No. 15, pp. 1111-1119, 2017.
21. Vivekanandam, B. and **Rajesh Babu, M.** “Adaptive Face Recognition Under Different Pose And Illumination Variation In Video Surveillance”, *Journal of Advanced Research in Dynamical and Control Systems*, Issue 12, pp.244-270, 2017.
22. Poongodi, S. and **Rajesh Babu, M.** “Prediction Of Crop Production Using Improved C4.5 With ANFIS Classifier”, *Journal of Advanced Research in Dynamical and Control Systems*, vol.9, Issue 6, pp.1427-1442, 2017.
23. Sarathamani, T. and **Rajesh Babu, M.** “Robust and Secure Anonymity Based Routing Protocol In MANET”, *Journal of Advanced Research in Dynamical and Control Systems*, Issue 6, pp.1382-1415, 2017.
24. Usha, G., **Rajesh Babu, M.** and Saravana Kumar,,S. “Dynamic anomaly detection using cross layer security in MANET”, *Computers and Electrical Engineering*, Elsevier, Vol.59, pp.231-241, 2017.
25. Annamalai Saravanan, R. and **Rajesh Babu, M.** “Assignment Of Id Using Aida For Secure Data Sharing In Distributed Data Mining”, *International Journal of Innovations in Scientific and Engineering Research*, Vol 3, Issue 12, December 2016.
26. Poongodi, S. and **Rajesh Babu, M.** “Supervised And Semi Supervised Clustering Based On Feature Selection Algorithm Process”, *International Journal of Innovations in Scientific and Engineering Research*, Vol.3, No.12, pp. 130-135, 2016.
27. **Rajesh Babu, M.** and Usha, G.. “Honeypot Based Dynamic Anomaly Detection using Cross Layer Security (HBDADCS) in MANET”, *Computers and Electrical Engineering*, Elsevier, <http://dx.doi.org/10.1016/j.compeleceng.2016.12.002>, 2016.
28. Sreejith Vignesh, B P. and **Rajesh Babu, M.** “Certain Investigations on Various Algorithms used to classify Malware and Goodware Applications”, *ICTACT Journal on Soft Computing*, Vol.7, No.1, October, pp.1344-1349, 2016.
29. **Rajesh Babu, M.** and Usha, G.. “A Novel Honeypot Based Probabilistic Approach (NHBPA) to Detect and Isolate Black Hole Attacks in MANET”, *Wireless Personal communications*, Springer, Vol.90, Issue 2, March (II), pp.831-

845, September 2016.

30. **Rajesh Babu, M.**, Moses Dian, S., Siva Chelladurai and Mathiyalagan Palaniappan. "Proactive Alleviation Procedure to handle Blackhole attack and its version", Recent trends and techniques in Computing Information Intelligence, Scientific World Journal, Vol. 2015, pages 11.
31. Poongodi, S. and **Rajesh Babu, M.** "A Survey on Prediction of Crop Cultivation based on Soil Condition and Rainfall data using Data Mining Approach", International Journal of Applied Engineering Research, Vol.10, No. 20, pp. 20209-20214, 2015.
32. Annamalai Saravanan, R. and **Rajesh Babu, M.** "A Survey of Text Mining Techniques and its Processing in Data Mining", International Journal of Applied Engineering Research, Vol.10, No. 20, pp. 20204-20208, 2015.
33. Savithri, M. and **Rajesh Babu, M.** "A Survey on Routing Study of Different Ad-Hoc Routing Protocols Based On Qualitative Parameters", International Journal of Applied Engineering Research, Vol.10, No. 20, pp. 20198-20203, 2015.
34. Sreejith Vignesh, B P. and **Rajesh Babu, M.** "Research study on various Malwares, its Classifications, Detection and Avoidance Techniques applied in Android Mobile Devices", International Journal of Applied Engineering Research, Vol.10, No. 20, pp. 20184-20187, 2015.
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37. Leelavathi, B. and **Rajesh Babu, M.** "Detecting Unknown Computer Worm using Improved ELM and Dempster-Shafer Theory", International Journal of Applied Engineering Research, Vol.10, No. 20, pp. 20113-20117, 2015.
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41. Mugilan, P. and **Rajesh Babu, M.** "Detecting Misbehaving Forwarders in Wireless Sensor Networks Using Hierarchical Algorithm", CiiT International Journal of Wireless Communication, Vol. 4, No. 9, pp. 488-493, 2012.
42. Jeishri, A.D. and **Rajesh Babu, M.** "Anomaly Detection for DoS Attacks and Malicious Flooding in Mobile Ad Hoc Networks", CiiT International Journal of Wireless Communication, Vol. 4, No. 9, pp. 494-499, 2012.
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44. **Rajesh Babu, M.** and Selvan, S. "Analysis of effectiveness of delivery ratio for EESARP based on analytical and

simulation results”, European Journal of Scientific Research, Vol.58, Issue 4, pp.599-609, 2011.

45. **Rajesh Babu, M.** and Selvan, S. “Secure Source Routing Protocol for Mobile Ad hoc Networks”, International Journal of Computer and Network Security, Vol. 2, No. 7, pp. 93-98, 2010.
46. **Rajesh Babu, M.** and Selvan, S. “Efficient and Secure Routing Protocol for Mobile Ad hoc Networks”, CiiT International Journal of Wireless Communication, Vol. 2, No. 5, pp. 126-131, 2010.
47. **Rajesh Babu, M.** and Selvan, S. “A Reliable Attack-Resistant Authenticated Routing Protocol for Mobile Adhoc Networks”, International Journal of Computer and Network Security, Vol. 2, No. 7, pp. 86-92, 2010.
48. **Rajesh Babu, M.** and Selvan, S. “An Energy Efficient Secure Authenticated Routing Protocol for Mobile Adhoc Networks”, American Journal of Scientific Research, Issue 9, pp. 12-22, 2010.
49. **Rajesh Babu, M.** and Selvan, S. “A Lightweight and Attack Resistant Authenticated Routing Protocol for Mobile Adhoc Networks”, International Journal of Wireless & Mobile Networks (IJWMN), Vol.2, No. 2, pp. 16-29, 2010.
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#### ➤ PUBLICATIONS IN NATIONAL AND INTERNATIONAL CONFERENCES

1. **Rajesh Babu, M.**, Sruthi S Madhavan, and Venkatesh, S. “Web Application Development for Product label reading using machine learning”, 7<sup>th</sup> International Conference on Science, Engineering and Technology, April 28-29, 2022.
2. Sruthi S Madhavan, **Rajesh Babu, M.**, and Venkatesh, S. “Learning Optimal policy for generating stress test cases for various autonomous software systems”, 7<sup>th</sup> International Conference on Science, Engineering and Technology, April 28-29, 2022.
3. **Rajesh Babu, M.**, Pradeep, K, and Ananth,E. “Precise performance model for a complex system using the self-adaptive learning-based Autonomous test framework, 7<sup>th</sup> International Conference on Science, Engineering and Technology, April 28-29, 2022.
4. Suresh Kumar, S., **Rajesh Babu, M.**, Vineeth, R., Varun, S., Sahil, AN., and Sharanraj, S. “Autonomous Traffic Light Control System for Smart Cities”, Proceedings of IRSCNS 2018 of Computing and Network Sustainability, August 30-31, 2018.
5. **Rajesh Babu, M.** and Hariharan. D. “Survey on Energy Efficient Protocols in Wireless Sensor Networks”, International Conference on Advanced Engineering and Technology, October 07-08, 2016.
6. **Rajesh Babu, M.** and Pradeep. K. “DMAS- A Dynamic Defense DDOS Attack Mitigation Architecture in SDN and cloud”, International Conference on Advanced Engineering and Technology, October 07-08, 2016.
7. Vivekanandam, B. and **Rajesh Babu, M.** “A Survey on Video Based Face Recognition”, International Conference on Inventive Research in Science and Technology, April 16-17, 2016.
8. Sarathamani, T. and **Rajesh Babu, M.** “Robust and Secure Protocol providing Anonymity in Mobile Ad Hoc Networks, International Conference on Inventive Research in Science and Technology, April 16-17, 2016.

9. Sreejith Vignesh, BP. and **Rajesh Babu, M.** “Certain Investigations on Classification and Detection Techniques of Malware in Android Mobile Devices”, International Conference on Intelligent Systems and Controls, January 2016.
10. Sreejith Vignesh, BP. and **Rajesh Babu, M.** “Effects of Malware in Android Applications of Smart Devices”, National Conference on Recent trends in Soft Computing and Data Mining, February 2015.
11. B. Leelavathi and **Rajesh Babu, M.** “A recent research study on various types of DDoS attacks, its classifications, detection tools, defence mechanisms and challenges in networks”, International Journal of Applied Engineering Research, ISSN 0973-4562 vol.10 No.20-2015.
12. B.Leelavathi and **Rajesh Babu, M.** “Detecting unknown computer worm using Improved ELM and Dempster-Shafer theory”, International Journal of Applied Engineering Research, ISSN 0973-4562 vol.10 No.20-2015.
13. B.Leelavathi and **Rajesh Babu, M.** “Anomaly based worm detection using Deterministic Finite Automata and Efficient Keygraph technique”, International Journal of Pure and Applied Mathematics, ISSN 1314-3395 vol..117 No.15 -2017, pp:1111-1119.
14. Jeishri, A.D. and **Rajesh Babu, M.** “Detecting Anomaly Nodes for Black hole Attacks in MANETS”, National Conference on Computational Intelligence for Modeling and Optimization, pp.52, April 11-12, 2012.
15. Mugilan, P. and **Rajesh Babu, M.** “An Efficient Way to Detect Packet Droppers and Modifiers in Wireless Sensor Networks”, National Conference on Computational Intelligence for Modeling and Optimization, pp.57, April 11-12, 2012.
16. Jeishri, A.D. and **Rajesh Babu, M.** “Anomaly Detection for Black hole Attack in Mobile Ad Hoc Networks”, Inter Collegiate Conference on Research Issues in Computer Science and Engineering, April 9, 2012.
17. Mugilan, P. and **Rajesh Babu, M.** “An efficient way to catch Packet Droppers in Wireless Sensor Networks”, Inter Collegiate Conference on Research Issues in Computer Science and Engineering, April 9, 2012.
18. **Rajesh Babu, M.** and Selvan, S. “Efficient and Secure Attack Resistant Authenticated Routing Protocol for Mobile Ad hoc Networks”, National Conference on Innovation in Computing Technology, Vol. 2, No. 5, pp. 126-131, 2011.
19. **Rajesh Babu, M.**, Sangeetha, M. and Vidhya Prakash, R. “Mitigating Routing Misbehaviour in mobile ad hoc networks”, Third National Conference on Recent Trends in Information and Communication Technology, April 9-10, 2010.
20. Mythily, R. and **Rajesh Babu, M.** “Analysis of Time Series and Fuzzy Logic on Hierarchical Clustering”, Second National Conference on Computational Intelligence, Security and Systems, April 3-4, 2009.
21. Mythily, R. and **Rajesh Babu, M.** “Analysis of Time Series and Fuzzy Logic on Hierarchical Clustering”, Third National Conference on Computing and Communication, April 24-25, 2009.

**Research Interests**

My areas of research interests include Information Security, Data Science and Computer Networks. I have done my PhD research work on security related issues for Mobile Ad Hoc networks. I have received funding of Rs.5,00,000/ for the project “Development of ArduSat for real time weather monitoring applications using mobile

	phones” from Institution of Engineers through R&D Grant-in-aid scheme.
<b>Other relevant achievements, awards and links:</b>	<p><b>AU Supervisor Reference No : 2740103</b>  <b>Google Scholar link:</b>  <a href="https://scholar.google.com/citations?user=J6HSYU4AAAAJ&amp;hl=en">https://scholar.google.com/citations?user=J6HSYU4AAAAJ&amp;hl=en</a>  <b>Linkedin ID : <a href="https://www.linkedin.com/in/rajesh-babu-aa0579a3/">https://www.linkedin.com/in/rajesh-babu-aa0579a3/</a></b></p> <p>As per Google scholar profile, I have 424 citations, 10 h index and 12 i-10 index. I have filed 8 patents, organized 4 workshops, conducted 14 national/international conferences, attended 13 conferences, 4 FDPs and 11 workshops, and delivered 2 lecture programs. Six of my research scholars were awarded PhD degree.</p> <p>I have completed the following certifications:</p> <ol style="list-style-type: none"> <li>1. CAMBRIDGE International Certificate for Teachers and Trainers (Certificate at Professional Level)</li> <li>2. JUNIPER certified Network Professional</li> <li>3. CISCO certified Network Associate</li> <li>4. IBM Certified E-Business Professional</li> </ol> <p>I have received the following awards:</p> <p><b>Doctor of Letters from Ashcroft University, London</b> on March 8, 2017.</p> <p><b>Indira Gandhi Gold Medal Award</b> for best performance for Individual Achievement and National Development- awarded by Global Economic Progress &amp; Research Association on March 8, 2017.</p> <p><b>Best Project Award</b> in ISSRD Engineering Students Innovation Challenge – 2017.</p> <p><b>Bharath Ratna Dr.Abdul Kalam Award</b> for best performance in Teaching, Research and Development- awarded by Global Economic Progress &amp; Research Association on October 15, 2016.</p>