

Faculty Profile

Dr. Usha J is an accomplished Professor in the Master of Computer Applications Department at RV College of Engineering, with over 26 years of experience. Her expertise spans Mobile & Cloud Computing, Networking, and Cyber Security, with allied interests in Software Engineering, AI Product Management, and Gen-AI.

Faculty Photo

She holds a Ph.D. in Computer Science from Savitribai Phule Pune University, focusing on mobile computing systems and efficient algorithms. Dr. Usha has a robust publication record, including numerous journal articles and conference papers on topics such as energy efficiency in cloud computing, location tracking, and network congestion control.

Beyond her academic role, she has spearheaded significant research projects, securing grants from organizations like IEEE HAC and AICTE. She is an IEEE Senior Member and an IEEE SIGHT Advisor, actively involved in other professional bodies like ISTE and CSI.

Dr. Usha has successfully supervised 4 Ph.D. graduates and currently 5 Research Scholars are in various Phases of their research work, over 200 MCA students projects, contributing significantly to academic and administrative committees/ roles within RVCE and as an external expert for other universities. Her contributions have earned her several awards and recognitions for excellence in education and publications.

Personal Information

- **Name:** Dr. Usha J
- **Designation:** Professor
- **Department:** Master of Computer Applications
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- <https://www.scopus.com/authid/detail.uri?authorId=55941122900>
- <https://www.webofscience.com/wos/author/record/AAF-5574-2019>
- https://scholar.google.com/citations?hl=en&user=BAC93CoAAAAJ&view_op=list_works&sortby=pubdate

Domain of Expertise

Research Focus

- **Primary Area:** Mobile & Cloud Computing, Networking, Cyber Security
- **Allied Areas:** Software Engineering, Project Management, AI Product Management, Gen-AI, UI/UX

Academic Qualifications

- **Ph.D.:** Computer Science, **University of Pune, Pune, now Savitribai Phule Pune University**, July 2011, “Studies on Mobile Computing Systems and Development of Efficient Algorithms for Performance Enhancement”
- **MCA, Bangalore University**, 1998
- **B.Sc: PCM, Bangalore University**, 1994

Professional Experience

Experience			
S.No	Institute/College/Industry	Job Title	Duration (From- To)
1.	RV College of Engineering	Professor	1 st March 2012 to till date
		Professor & Director	1 st Jan 2015- 23 rd July 2018
		Associate Professor	01 st Jan 2011-01 st March 2012
		Assistant Professor	01 st Aug 2005 -01 st Jan 2011
		Lecturer	26 th Oct 1998 – 01 st Aug 2005

Journal Publications

1. Jayasimha SR, Divya TL, Usha J, Savita R, Andhe Dharani, "Implications of COVID 19 on Indians: A Perspective", Gradiva Review Journal, pp 35-41, DOI: 10.37897.GRJ.2022.V8I12.22.50624
2. Deepika K & Usha J published a paper title “Automation of smart monitoring for person localisation and alerting network” in International Journal of Information Technology and Management, Vol.20, Print ISSN: 1461-4111 Online ISSN: 1741-5179.

3. Jayasimha and Usha J published a paper title "Modified Best Fit Decreasing Method for optimum Power Consumption in Cloud Data Centers" in RVJSTEAM in Vol. No 2, Issue. 2, PP67-76.
4. Jayasimha S R, Usha J and Srivani Iyengar S G, "A Comprehensive review of Energy Efficiency in Cloud Computing Environment" in International Journal of Engineering and Technology UAE Journal Vol 7. No.3.29
5. Kiran Kumar Guduru, Usha J, "Reliable Session Initiation Protocol (RSIP) Signaling with UDP transport using piggybacking method", International Journal of Telecommunication Systems, Modelling, Analysis, Design and Management proceedings, Springer, November 2017 DOI 10.1007/s11235-017-0406-0, ISSN 1018-4864, Vol 58, Issue 1
6. Chandrani Chakravorty, Puneet Krishna S, Vinayak Rudrapuri, Sujit S S, Usha J, "Blood Donor App: A Small Step to Save the Life", International Journal of Engineering Technology, Management and Applied Sciences (IJETMAS), ISSN 2349-4476, Vol 5, Issue 8, pp 1-5
7. K.B. Ashwini and Usha J. "An Effective Outlier Detection-Based Data Aggregation for Wireless Sensor Networks" IJCTA ISSN: 2229-6093 SCOPUS INDEXED Nov-Dec 2016 Vol 7(6),768-772
8. S. R. Jayasimha, Usha.J and S. G. Srivani, "Minimizing Power Consumption and Improve the Quality of Service in the Data Center", Indian Journal of Science and Technology (Scopus Indexed Journal) DOI: 10.17485/ijst/2016/v9i43/104389, November 2016 ISSN (Print) 0974-6846 ISSN (Online): 0974-5645
9. Deepika K and Usha J , "Investigations & Implications on Location Tracking Using RFID with Global Positioning Systems", International Journal of Business Innovation and Research 15th to 17th August 2016, at Kuala Lumpur Convention Centre, Kuala Lumpur, Malaysia, ISBN: 978-1-5090-2549-7/16/©2016 IEEE, pp270-275
10. Deepika K and Usha J, "Analysis of UHF ISO/IEC 14443 Gen 2 RFID Technology", International Journal of Computational Engineering Research (IJCER), ISSN (Online) : 2250-3005, Volume 06, Issue 04, April 2016, pp 48 - 55.
11. Shanthi P, Yashaswini P, K Sreelakshmi, J Usha, K S Jasmine, "Design and analysis of RF power amplifier using thin film passive components at 3.5GHZ", International Journal of Advanced Research (2016), ISSN 2320-5407, 30th March 2016, Volume 4, pp 29-35
12. Chandrani Chakravorty, Usha J, "Relevance of tree structure in Location Based Service ", International Journal of Advance Engineering and Research Development, Volume 2, Issue 12, December -2015, pp: 512-516, Scientific Journal of Impact Factor (SJIF): 3.134, e-ISSN (O): 2348-4470, p-ISSN (P): 2348-6406.
13. Kiran Kumar Guduru and Usha J, "Multicasting and Broadcasting of Data through TURN Server", International Conference on Advances in Computer Communications and Informatics (ICACCI), Kochi, 10-13 August 2015, pp 1314-1319. 978-1-4799-8792-4/15 @ 2015 IEEE.
14. Kiran Kumar Guduru and Usha J , Method to Reduce SIP Signaling Messages during Glare Conditions, IEEE International Advance Computing Conference (IACC), 978-1-4799-8047-5/15, 12th June 2015, 491-495
15. Deepika K and Usha J, "Comparative Analysis of Location Based Positioning Systems", International Conference on Research in Business Management and Information Technology (ICRBIT-2015), R.N. Shetty Institute of Technology (RNSIT), Bengaluru, 29th - 30th April 2015, ISBN 978-81-930411-5-4 © 2015, ELK Asia Pacific Journals, pp 54-57.
16. Kiran Kumar Guduru and Usha J, "MIME Type for ICE Candidates to Reduce the Size of SIP Session Setup Signaling Messages", Fifth IEEE, International Conference on Communication Systems and Network Technologies, Gwalior, 4th - 6th April 2015, Gwalior, ISSN 978-1-4799-1797-6/15, \$31.00 © 2015, IEEE, DOI 10.1109 / CSNT.2015.70, pp 318-322.
17. Kiran Kumar Guduru and J. Usha, "Overload Detection and Controlling Techniques in SIP Servers, A Survey", International Journal of Computer Networks and Wireless Communications, Volume 4, Issue 3, June 2014.

18. Ashwini B. M and Usha J, "Location Based Services-Positioning Techniques and its Applications", International Journal of Application for Innovation in Engineering & Management (IJAIEEM), Volume 3, Issue 1, January 2014, ISSN 2319-4847, Impact Factor 2.379.
19. Sudha M, Harish G. M, Usha J, "Performance Analysis of Linux Containers- An Alternative Approach to Virtual Machines, Vol 4, Issue 1, January 2014, International Journal of Advanced Research in Computer Science and Software Engineering, IJARCSSE, ISSN 2277 128X, pp 820-824. Impact factor 2.080
20. Chandrani Chakravorty, J. Usha, "Cache Replacement Using Association Mining Rule for Faster Access of Data in Mobile Computing Environments", Journal of International Academic Research for Multidisciplinary, JIARM, ISSN 2320-5083, Volume 1, Issue 11, December 2013, pp 690-700. Impact factor 1.393
21. Kiran Kumar Guduru, Usha J, "Controlling Overload in Networks with SIP Redirect Servers, International Journal of Advanced Research in Computer Science and Software Engineering, IJARCSSE, Volume 3, Issue 11, November 2013 ISSN: 2277 128X, pp 189-194. Impact factor 2.080.
22. Sudha M, Usha J and Sumithra Devi K.A, "Scalable Databases for Data Intensive Application", Communication in dependability and Quality Management , An International Journal, published by The Research Center of Dependability and Quality Management, P.O Box 132, 32102, Cacak, Serbia, www, dqmcenter.com, Vol 16, No.1, March 2013, ISSN 1450-7196, pp 64-72.
23. Usha J, Sudha M, Harish G M and Nandan A: "Performance Analysis of Kernel-Based Virtual Machine", International Journal of Computer Science & Information Technology (IJCSIT) Vol 5, No 1, February 2013, Pg. 137-144.
24. Usha J, Vidya Rao and K.A. Sumithra Devi: "See the Environment through your Phone: An Application for the Visually Challenged, ISBN 978-1-61896-035-1, May 2012, Scientific Research Publishing, Category -Engineering, Spring World Congress on Engg & Technology, Xi'an China, 2012-05-27 2012-05-30 2012, paperback pp 270 – 273.
25. Usha J and Chandrani C: "Cache Management Issues in Mobile Computing Environment", International Journal of Mobile Network Communications & Telematics (IJMNCT) Vol.2, No.1, February 2012, pp 21-27.
26. Usha J and Chandrani. C: "A Survey on Cache Replacement Methods for Data Management in Mobile Environments" International Journal of Futuristic Technologies in Computer Science and Engineering" (IJFTCSE- 2011, Vol 1, Issue 1, Bangalore Press, ISSN 2250-2998.
27. Usha.J, Ajay Kumar and A.D. Shaligram: "Clustering Approach for Congestion in Mobile Networks" , International Journal of Computer Science and Network Security, Vol 10, No. 2, February 2010, pp113-118.
28. Usha.J, Ajay Kumar and A.D. Shaligram, "Load Balancing using Back propagation in Mobile Networks" , CIIT International Journal of Wireless Communication, Vol 2, No. 2, February 2010, pp 33-40. , ISSN 0974-9756.
29. Usha.J, Ajay Kumar and A.D. Shaligram, "New Reminder Scheme for Congestion Control in Mobile Networks", CiiT International Journal of Wireless Communications, Coimbatore, India, Vol 1, No. 7, October 2009, pp 305-312. , ISSN 0974-9756.
30. Usha J, Ajay Kumar and A.D. Shaligram, "Mobile Computing and its Applications", CiiT International Journal of Wireless Communications, Vol 1, No.2 May, 2009, Coimbatore, India, pp 63-72. , ISSN 0974-9756.

Conference Papers

1. Jayasimha S R, Usha J and Srivani S G, "Efficient Power Management using Fuzzy Logic for Cloud Computing Environment" in 3rd IEEE International Conference on Computational Systems and

Information Technology for Sustainable Solutions CSITSS 2018 Jointly Organized by Department of MCA, CSE, ISE, R V College of Engineering, Bengaluru from 20th to 22nd December 2018 page number 35 to 40.

2. Deepika K and Usha J, "PLAN: Indoor Positioning using Bluetooth with Received Signal Strength Indicator", International Conference on Industrial Internet of Things and Smart Manufacturing (IoTsm), Yet to be Published.
3. Preethi N Patil, Usha J and Ashwini KB, "A Comparative Study on Effective Diabetic Lesions Representation in Ophthalmic Imaging Techniques- Fundus Imaging versus OCT Imaging", International Conference on Industrial Internet of Things and Smart Manufacturing (IoTsm), Yet to be Published.
4. Ashwini KB, Usha J and Preethi N, "e-Drones: Air-to-Ground communications for Emergency Healthcare", International Conference on Industrial Internet of Things and Smart Manufacturing (IoTsm), Yet to be Published.
5. Usha J, Jayasimha S.R, Srivani S G, "Automata Approach to Reduce Power Consumption in Smart Grid Cloud Data Center", in Third International Conference on Cognitive Computing and Information Processing" December 15-16, 2017.
6. Deepika K and Usha J, "Design & development of location identification using RFID with Wi-Fi positioning systems", 2017 Ninth International Conference on Ubiquitous and Future Networks (ICUFN) from 4th July to 7th July 2017 at Milan, Italy, ISBN: 978-1-5090-4749-9/17/\$31.00 ©2017 IEEE, pp 488-493.
7. Jayasimha S.R, Usha J and Srivani S.G, "Analysis of Power Consumption under Different Workload Conditions in the Data Center" in IEEE Sponsored 3rd International Conference on Electronics and Communications (ICECS 2016) on 26th February 2016 conducted by the Department of Electronics and Telecommunication Engineering, Karpagam College of Engineering, Coimbatore ISBN: 978-1-4673-7832-1/16/\$31.00©2016 IEEE, pp:1036-1040.
8. Deepika K and Usha J, "Identification of UHF Gen 2 RFID Privacy and Security Issues", Proc 4th International IEEE Conference on Radar, Antenna, Microwave, Electronics and Telecommunications (ICRAMET) 2015, 5th - 7th October 2015, Bandung, Indonesia, pp 82-86, ISBN: 978-1-4673-9422-2/15@ 2015 IEEE.
9. Kiran Kumar Guduru and Usha J, "Multicasting and Broadcasting of Data through TURN Server", International Conference on Advances in Computer Communications and Informatics (ICACCI), Kochi, Aug 10-13, 2015, ISSN No. 978-1-4799-8792-4/15©2015, pp 1314-1319.
10. Deepika K and Usha J, "Comparative Analysis of Location Based Positioning Systems", International Conference on Research in Business Management and Information Technology (ICRBIT-2015), R.N. Shetty Institute of Technology (RNSIT), Bengaluru, April 29- 30, 2015, ISBN 978-81-930411-5-4 © 2015, ELK Asia Pacific Journals, pp 54-57.
11. Kiran Kumar Guduru and Usha J, "Queuing Strategies for Self Overload Control in SIP Servers", IEEE International Conference on Contemporary Computing and Informatics (IC3I), Mysore, India, Nov 27- 29, 2014, ISSN No. 978-1-4799-6629-5/14, pp 1007-1011.
12. Kiran Kumar Guduru and Usha J, "MIME Type for ICE Candidates to Reduce the Size of SIP Session Setup Signaling Messages", Fifth IEEE, International Conference on Communication Systems and Network Technologies, Gwalior, 4th - 6th April 2015, Gwalior, ISSN 978-1-4799-1797-6/15, © 2015, IEEE, DOI 10.1109 / CSNT.2015.70, pp 318-322.
13. Usha J and Ashwini. B.M, "A Novel Approach to Reduce and Recycle E-waste in India" in 7th International Congress of Environmental Research (ICER-14) Organized by Journal of Environmental Research and Development (JERAD) on 28th December 2014 at R.V.College of Engineering, Bangalore, ISBN : 978-81-909379-7-9, Paper Id- T-540, pp 668-672.
14. Usha J and Kiran Kumar Guduru, "Techniques for Reducing Network Congestion in Telecom Signalling Networks" ICFC-2012, Dec 2012 pp 102-109, Narosa Publishing House, India, ISBN 978-81-8487-271-2.

15. Usha J and Chandrani. C:” A Novel Approach to Data Management in Mobile Environments”, ICFC-2012, Dec 2012, pp 125-130, Narosa Publishing House, ISBN 978-81-8487-271-2.
16. Usha J, Sudha M and Sumithradevi. K.A: “Scalable Databases for Data Intensive Applications” ICFC-2012, Dec 2012. pp 131-.136, Narosa Publishing House, ISBN 978-81-8487-271-2.
17. Usha J, Vidya Rao and K.A. Sumithra Devi: “ See the Environment through your Phone: An Application for the Visually Challenged, IEEE, Spring World Congress on Engineering and Technology, 27th May – 30th May 2012, Xian, China.
18. Usha J, Chandrani.C: “Different Strategy for Data Management in Mobile Computing”, proceedings of Second International Conference on Advances in Computer Science and Information Technology-Networks and Communications (CCSIT 2012), January 2-4, 2012, Bangalore, India, Part 1, pp 300-305, Springer Publications. ISSN 1867-8211.
19. Usha.J, Ajay Kumar and A.D. Shaligram: “Development of New Reminder Scheme for Congestion Control in Cellular Mobile Networks”, IEEE International Conference on Advance Computing, March 6-7, 2009, Patiala, India, pp 166-171.
20. Jayasimha S R, and Usha J, “Development of Cloud Applications through Location Tracker for Healthcare” organized AICTE sponsored National Conference on Critical Thinking for GenZ-Multidisciplinary Approach (CTGZMA) in Association with ISTE, New Delhi, during 28 - 29 October 2021 organized by department of MCA, RVCE.
21. Deepika. K and Usha. J, “RFID Privacy and Security Sensor Based System, A Survey”, National Conference on Innovative Computing, NCIC-2014, 18th September 2014, R. B. Gothi Jain College for Women, Chennai-52, ISBN 978-93-80530-82-6, pp 370-375.
22. Usha J, Vishnu Makam Gupta, Purushottam Kurade and K.A. Sumithra Devi,” Unutilized Resources and Inclusive Growth” 5th National Seminar on Financial Inclusion – Opportunities and Challenges, conducted by Indian Academy School of Management Studies on 26th – 27th April 2013, pp 110-112.
23. Usha J, Rajiv Padaki, and Ravi Chandra C N,” Securing Peer to Peer Mobile Communications using Public Key Cryptography: New Security Strategy”, National Conference on Recent Research Trends in Network Security, 19th -20th April 2012, Srinivas Institute of Technology, Mangalore, India, pp 12.
24. Usha J, Sudipta Chakraborty and Saurabh Kumar,” Convergence of Information, Computing and communication”, National Conference on Recent Research Trends in Network Security, 19th -20th April 2012, Srinivas Institute of Technology, Mangalore, India, pp 15.
25. Usha J, Sunil Kumar and Tirthadeep Roy,” Wireless Network Security”, National Conference on Recent Research Trends in Network Security, 19th -20th April 2012, Srinivas Institute of Technology, Mangalore, India, pp 15.
26. Usha.J, Ajay Kumar and A.D. Shaligram: “Analysis of Call Blocking Probability in Cellular Mobile Networks” proc National Conference on Mathematical and Computational Models. NCMCM 2007, PSG College of Technology, Coimbatore, 13th-15th December 2007, pp 20-27.
27. Usha.J, Ajay Kumar and A.D. Shaligram:” Stochastic Analysis of Call Blocking Probability in Cellular Mobile Networks”, proc National Conference on Information Systems and Computer Engineering”, NICE 2007, jointly conducted by R.V. College of Engineering, Bangalore and Avinashlingam University for Women, Coimbatore at RVCE, Bangalore, 5th -6th Oct 2007, pp 114-118.
28. Usha.J, Ajay Kumar and A.D. Shaligram: “Analysis of Load balancing Algorithms in Mobile Computing Systems”, proc of National Conference on Advanced Multimedia Processing and Applications”, RVCE, Bangalore 28-29th October 2005, pp 161-166.
29. Usha.J, Ajay Kumar and A.D. Shaligram: “Mobile Computing: Challenges Encountered and Future Scenario”, 36th IETE EFCOS Mid-Term Symposium, 29th April -1st May 2005, IISc, Bangalore, India, pp 338-346.

Books/Book Chapters

1. Jayasimha S R, Usha J and S G Srivani, Book chapter “Design and use of virtualization technology in cloud computing”, D-Book Interline publishing, April 2017

R & D Grants & Consultancy Projects

Ongoing & Completed Research Projects

- Awareness Creation and Detection of Vector Borne Disease -Dengue for Public Health (22-HAC-128) – IEEE HAC, Grants received \$5000, Grant Reference Number: #22-HAC-128 Dated 30th November-2022, Duration: 30th November 2022 – 30th Sept 2023 Principal Investigator
- Center for Upliftment and Personality Development of SC/ST Students for Better Outreach- Funding Agency- SPDP, AICTE, New Delhi. Grants of Rs.25 lakhs sanctioned, Duration: 3 years, June 2016- June 2021, Principal Investigator
- Modernization and Removal of Obsolescence - Cloud Center of Excellence (MODROBS), Funding Agency- AICTE New Delhi. Grants of Rs.7.5 lakhs sanctioned. Duration: 2013-2016, Principal Investigator

Consultancy Projects

- RV Centre for Women Empowerment and Skills Training Programme, Lions International Club, Bangalore Legends RVCE/MCA/54/2022 Dated 27/06/2022 -Dr. Usha J and Dr. Divya TL, Rs 15000, 27th June -30th July 2022
- RV Centre for Women Empowerment and Skills Training Programme, Ananya Foundation, Bangalore Dated 27/06/2022 -Dr. Usha J and Dr. Divya TL, Rs 20000, 27th June -30th July 2022

Professional Memberships

- IEEE Senior Member, IEEE SIGHT, IEEE Computer Society
- Life Member ISTE
- Life Member CSI

Awards & Recognitions

- Honoured by RSST, for Publishing Papers as Authors under Scopus Indexed Journal on 26th January 2019.
- Honoured by RSST for Publishing Papers as Authors under Scopus Publications and citations for the year 2016-2017
- Honoured by Lioness Victory Club, Vijayanagar on Teacher's Day and Engineers Day celebrations at Pramila Bai School, Vijayanagar on 22nd Sept 2012.
- Honoured by ISTE, RVCE on 10th September 2011 for obtaining Ph.D. in Computer Science, University of Pune, Pune
- Honoured by RSST on 26th January 2010, "Excellence in Education" for presenting publications in international conferences.

- Received Certificate of Appreciation from ISTE, RVCE chapter for presenting papers in National conferences during the year 2004-2005.

Student Supervision

- **Ph.D. Candidates:** 5 Ongoing 4 Graduated
- **MCA Students:** [200+]

Professional Roles

- **Chair:** CSITSS 2018
- **IEEE RVCE SIGHT Advisor**
- **Co-Chair IEEE Bangalore SIGHT 2023-24**

Teaching

Core Courses: [Current semester]

- MCA 225C2 Gen-AI

Advanced/Lab Courses:

- MCA 224B4 Cloud Computing

Professional Roles

Responsibilities

- **Academic:** BoS, BoE, AMC, Anti-Ragging, IQAC Review Member, Project Guide
- **CoE- Women in Cloud, RVCE: co- Co-ordinator**
- **Administrative:** Member- Budget Committee, AMC-Co-ordinator, Research co-ordinator, IEEE- Faculty Advisor -SIGHT Chapter RVCE, Reception Committee UG/PG Graduation Day ceremony

External Connect

- VTU Nominee Member of BoS- MCA Department, SJBIT, Bengaluru
- Member of BoS- Department of MCA, RNSIT, Bengaluru

- Member of BoE – Department of MCA, PESCE, Mandya
- Member of BoE – Department of Computer Science and Applications, S-Vyasa Deemed to be University, Bengaluru
- Ph.D. Guide, VTU, Belagavi, RSRI Number- VTU08172621
- Paper Reviewer for International conferences
- External Subject Expert- DC member for Research Scholars, VTU
- Paper Setter- BMSCE, MSRIT, SIT, VTU
- External Examiner and Evaluator: SIT, BMSCE, RNSIT, PES.
- External Interview Panel Member- Subject Expert, DSCE, Bangalore
- External Member and Evaluator: Ph.D thesis
- External Audit Member- SSIT, Tumkuru, KLS-Gogte Institute of Technology, Belagavi
- External Reviewer for International Conferences
- IEEE HAC Proposal- Evaluator
- Session Chairs for CSITSS, IEEE conferences, ICECMSN 2021

Projects

Number of UG Projects Guided	Number of PG Projects Guided	No. of Doctorate Students	
NA	156	Completed	In Progress
		04	05

Publications

National Journals	National Conferences	International Journals	International Conferences	Book Chapters Published	Patent Granted
NA	10	30	19	01	NA