

Dr. Ratneshwer
Assistant Professor

School of Computer & Systems Sciences,
Jawaharlal Nehru University, New Delhi, INDIA.
Contact No. +91-11-26708786
E-Mail: ratneshwer@gmail.com,
ratnesh@mail.jnu.ac.in



Working Experience

- Working as an Assistant Professor in School of Computer & System Sciences, Jawaharlal Nehru University, New Delhi since 19th April 2017.
- Worked as an Assistant Professor in Department of Computer Science, MMV, Banaras Hindu University, Varanasi (India) since October 2007 to 18th April 2017.
- Two academic year (2003-05) teaching experience as a lecturer in MPMD Institute of Computer Science Technology and Management, Gorakhpur (affiliated from UP Technical University, Lucknow, India).
- One academic year (2005-06) teaching experience for engaging classes of M. Sc. and B. Sc. in Department of Computer Science, Banaras Hindu University, Varanasi, India.

Research Qualification

- Done Ph. D. in Computer Engineering at Department of Computer Science and Engineering, Indian Institute of Technology (IIT-BHU), Varanasi (India). (Thesis Title: Some Observations on Software Processes, Interdependence and Composability under CBSE, Thesis Supervisor: Prof. Anil Kumar Tripathi) in 2008.

Academic Qualifications

Below is the summary of my educational qualification:

- Master of Computer Application from Madan Mohan Malaviya University of Technology (formerly known as M.M.M. Engineering College), Gorakhpur (U.P.), in 2003.
- B.Sc. from D.D.U. Gorakhpur University, Gorakhpur in 1998.

Courses Taught

- Software Engineering
- Software Testing
- Object Oriented Programming
- Database Management Systems
- Data Structure
- Computer Architecture
- Internet of Things
- Operating Systems
- Computer Networks

Research Areas

Software Fault Tolerance, Performability Analysis, Software Testing, Networks Fault Management

PhD Thesis Supervised (02 Awarded + 4 In progress)

- Pawan Kumar, "Some Observation on Dependency Analysis of SOA based Systems". Awarded
- Vandana Kushwaha, "Some Observations on Congestion Control in High Speed Wired Networks". Awarded
- Swati Goal, "Fault Tolerance Enhancement in Service Oriented Architecture"- In Progress.
- Shakeel Ahmad, "Software Performability for Safety Critical Systems"- In Progress.
- Jagdish Prasad, "Network Faults Management", In Progress.
- Sandeep Patel, "Autonomous Software Testing", In Progress.

M.Thesis Supervised (03)

- Ravinder Kaur Makhija, "Software Test Case Reduction"
- Varun Kumar, "Fault Modelling of IoT Systems"
- Priti Kumari, "Architecture Level Software Fault Modelling"

Publications

Monograph

Ratneshwer, A K Tripathi, "Component Based Software Engineering: Dependency and Software Process Issues", Lambert Academic Publishing, ISBN-10:3843386803, Edition: Paperback 01/2011.

Book Chapter

- Guru Prasad Bhandari, Ratneshwer. Chapter 1: An Overview of Cloud/Edge Computing Architecture with its Issues and Challenges, Book Chapter in the Book "Advancing Consumer-Centric Fog Computing Architectures", IGI Global Publishers, ISBN10: 1522571493. December 2018
- Guru Prasad Bhandari, Ratneshwer. Chapter 3: Safety critical, dependable, fault tolerant cyber physical systems," Book Chapter accepted in the Book "Cyber-Physical Systems for Next Generation Networks". Editors: J Rodrigues, A Gawanmeh. IGI Global Publishers. ISBN10: 1522555102, pp. 54-78. May 2018
- Haribans Mishra, Ratneshwer Gupta. Some Studies on Factors Influencing Maximum Association Number of Wi-Fi Access Point. In: Kolhe M., Trivedi M., Tiwari S., Singh V. (eds) Advances in Data and Information Sciences. Lecture Notes in Networks and Systems, volume 39. Springer, Singapore. ISBN: 978-981-13-0277-0. June 2018
- Ratneshwer, Vandana Kushwaha, Collective Intelligence in Networking, book chapter published in the book of "Nature-Inspired Networking: Theory and Applications" edited by Prof. Phan Cong Vinh and published by CRC Press - Taylor & Francis Group, ISBN-10: 149876150X. March 2018
- Ratneshwer, Vandana Kushwaha, Delay Tolerant Networks: Architecture, Routing, Congestion, and Security Issues, Handbook of Research on Cloud Computing and Big Data Applications in IoT, IGI Global, pp. 448-480, 2019. March 2018
- Ratneshwer, "A Software Component Generation Model for Pervasive Computing Environment", in Strategic Pervasive Computing Applications: Emerging Trends, Varuna Godara (Ed), pp. 67-85, IGI Global Publication, 2010, ISBN: 978-1-61520-753-4. Feb 2010.

In International/National Journals

- 1.Shakeel Ahamad, Ratneshwer. Some Studies on Performability Analysis of Safety Critical Systems. Computer Science Review. Volume 39 (2021), pp. 1-19 **(SCI, IF: 7.70)**.
- 2.Guru Prasad Bhandari, Ratneshwer. Fault Prediction in SOA-Based Systems Using Deep Learning Techniques, International Journal of Web Services Research (IJWSR) Volume 17, Issue 3, 2020, pp. 1-19. **(SCI-E, SCOPUS)**
- 3.Guru Prasad Bhandari, Ratneshwer. Fault diagnosis in service-oriented computing through partially observed stochastic Petri nets. Service Oriented Computing and Applications. Volume 14, Issue 1, March 2020, pp. 35-47. **(E-SCI, SCOPUS)**.
- 4.Haribansh Mishra, Ratneshwer, Satyanshu Kumar Upadhyay. Systematic review of congestion handling techniques for 802.11 wireless networks. International Journal of Communication Systems, Volume 33, Issue2, January 2020, pp. 1-31. **(SCI-E, SCOPUS). IF. 2.047**
- 5.Guru Prasad Bhandari, Ratneshwer Gupta and S.K. Upadhyay (2019), An approach for fault prediction in SOA-based systems using machine learning techniques, Data Technologies and Applications **(SCI-E, SSCI)**, Volume 53, Issue 4, 2019, pp. 397-421. Emerald, ISSN: 2514-9288. Bingley BD16 1WA, United Kingdom
- 6.Shubham Kaushik, Ratneshwer, Fault Modelling of an Object-Oriented System using CPN, International Journal of Computer Sciences and Engineering, Vol.-7, Issue-5, May 2019, pp. 1828-1845. (UGC Journal No. 63193), Indore, MP 452001 India, ISSN: 2347-2693(E).
- 7.Guru Prasad Bhandari, Ratneshwer Gupta, Fault analysis of service-oriented systems: a systematic literature review, IET Software (2018), 12 (6):446-460. **(SCI, IF:1.25)**. UGC 30104. Online ISSN 1751-8814
- 8.Guru Prasad Bhandari, Ratneshwer Gupta and Satyanshu K. Upadhyay. "Colored Petri Nets Based Fault Diagnosis in Service Oriented Architecture." The International Journal of Web Services Research (IJWSR), HERSHEY, USA, PA, 17033-1240, Volume 15, Issue 4, (2018): 1-28. Web. 24 Sep. 2018, **(SCI-E, Scopus)**.
9. Vandana Kushwaha, Ratneshwer Gupta, A Router based Hybrid Approach for Congestion Control in High speed Wired Networks, International Journal of Computer Sciences and Engineering, Vol. 6 (11), pp: 89-100, 2018.
- 10.Guru Prasad Bhandari and Ratneshwer (2018), *Dependency Based Fault Diagnosis Approach for SOA Based Systems using Colored Petri Nets*, The Journal of King Saud University Computer and Information Sciences **(E-SCI, Scopus)**, ISSN 1319-1578, Elsevier.

11. Guru Prasad Bhandari, Ratneshwer Gupta. A Systematic Literature Review on Fault Analysis of IoT. *International Journal of Web Science*, Volume 3, Issue 2, 2019, pp. 130. UGC 64196.
12. Guru Prasad Bhandari, Ratneshwer Gupta. Extended Fault Taxonomy of SOA based Systems. *CIT. Journal of Computing and Information Technology*, Vol. 25, No. 4, December 2017, pp. 237-257 (**SCOPUS**). UGC 6908
13. Ratneshwer, Software Development Considerations of Information Security, *International Journal of Applied Research on Information Technology and Computing*, Vol. 8, No. 2, Aug 2017, pp. 168-181.
14. Vandana Kushwaha, Ratneshwer. Ranking of Router-Based Congestion Control Approaches for High Speed Networks using AHP. *Indian Journal of Computer Science and Engineering*, Volume 8, Number 3, 2017, pp. 218-234. (**SCOPUS**)
15. Guru Prasad Bhandari, Ratneshwer, "Fault Repairing Strategy Selector for Service-Oriented Architecture", *International Journal of Modern Education and Computer Science*, Volume 9, Number 6, 2017, pp. 32-29 (**SCOPUS**).
16. Vandana Kushwaha, Ratneshwer, "Interaction of High Speed TCPs with recent AQMs through Experimental Evaluation", *International Journal of Computer Network and Information Security(IJCNIS)*- Volume 9, Number 1, 2016, pp. 41-47 (**SCOPUS**).
17. Vandana Kushwaha, Ratneshwer, "Ranking of Source Based Congestion Control Approaches for High-Speed Networks Using AHP", *International Journal of Communication Networks and Distributed Systems*, Vol. 17, No. 4, 2016, pp. 387-411. (**SCOPUS, E-SCI**)
18. Pawan Kumar, Ratneshwer, "Architecture Level Dependency Analysis of SOA Based System Through Π -ADL", *International Journal of Software Engineering*, Volume 9, Number 1. pp.59-89, 2016.
19. Ratneshwer, Pawan Kumar, "Dependency analysis of a SOA-based system through Petri nets and service algebra", *International Journal of Software Engineering, Technology and Applications (Inderscience Publishers)*, Volume 1, Number 2, 2015, pp. 172-189.
20. Pawan Kumar, Ratneshwer, "Dependency Modeling of a SOA based System through Colored Petri Nets", *Journal of Computing and Information Technology* - Vol. 24, No. 3, September 2016, pp. 165-18. (**SCOPUS**)
21. Pawan Kumar, Ratneshwer, "Some Observations on Dependency Analysis of SOA Based Systems", *International Journal of Information Technology and Computer Science* – Volume 8, Number 1, 2016, pp. 54-66.
22. Vandana Kushwaha, Ratneshwer, "Congestion control for high-speed wired network: A systematic literature review", *Journal of Network and Computer Applications*. Volume 45, 2014, pp. 62-78. (**Impact Factor: 5.27**) (**SCI**).

23. Ratneshwer, Guru Prasad Bhandari; Kul Bahadur Chhetri, "Design and development of dependency analysis tool (DA-OOP) for an object oriented Programme", International Journal of Software Engineering, Technology and Applications, Vol.1, No.1,2015, pp.102 – 117.
24. Vandana Kushwaha, Ratneshwer, "A Review of Router based Congestion Control Algorithms", International Journal of Computer Network and Information Security, vol.6, no.1, pp.1-10, 2014 **(SCOPUS)**.
25. Vandana Kushwaha, Ratneshwer, "A Review of End-to-end Congestion Control Algorithms for High-speed Wired Network", International Journal of Engineering Research & Technology (IJERT), Vol. 2 Issue 9, September – 2013, 1240-1244.
26. Ratneshwer, A K Tripathi, "A Knowledge Identification Framework for Component Based Dependency Analysis Process", International Journal of Software Engineering and Its Applications, Volume 7, Issue 5, 2013, pp. 309-324.
27. Ratneshwer, "Control dependence Analysis of Software Components", Journal of Computing, Computer Society of India, Volume 1, Number 2, 2013.
28. Ratneshwer, A K Tripathi, "IMM-CBSE: An Integrated Maturity Model for CBSE", International Journal of Computer Applications in Technology, Vol. 46, No. 4, 2013. **(SCOPUS)**
29. Ratneshwer and A K Tripathi, "Dependence Analysis of Component Based Software through Assumptions", International Journal of Computer Science Issues, Volume 8, Issue 4, 2011, pp.49-60.
30. Ratneshwer and A K Tripathi, "Some Component Generation Approaches for E-Governance Systems", International Journal of Public Information Systems, Volume 2010:2, pages. 113-147, 2010.
31. Ratneshwer and A K Tripathi, "Dependence Analysis of Software Component", ACM SIGSOFT Software Engineering Notes, volume 35, number 4, July 2010, pp. 1-9.
32. Ratneshwer, "An Approach towards Composability Enhancement", International Journal of Computer Applications, Volume 1, Number 3, Article 19, 2010.
33. Ratneshwer and A K Tripathi, "Interdependence Analysis in Component Based Software", Journal of Information Science and Technology", volume 6, issue 2, 2009.
34. Manjari Gupta, Ratneshwer and A K Tripathi, "An Exploratory Case Study in Designing and Implementing Tight versus Loose Frameworks", Journal of Software Engineering and Applications, Scientific Research Publishing, Inc. USA, volume 2, issue 3, 2009.
35. A. K. Tripathi, Ratneshwer and Manjari Gupta, "Some Observations on Software Processes for CBSE", in Journal of Software: Evolution and Process;

36. A. K. Tripathi and Ratneshwer, "Some Observations on Interdependencies in Component Based Software", *International Journal of Software Engineering*, Vol. 1, No. 2, pp. 49-80. July 2008.
37. A. K. Tripathi, Ratneshwer and Manjari Gupta, "Need to Redefine the Testing Process for Component Based Software", *International Journal of Information and Computing Science*, Volume 10, Number 1, June 2007, pp. 52-63.

In International/National conferences

1. Shakeel Ahamad & Ratneshwer. (2022). Criticality Analysis for Safety-Critical Systems Using FMEA. In *Smart Systems: Innovations in Computing* (pp. 229-235). Springer, Singapore.
2. Guru Prasad Bhandari, Ratneshwer, Measuring the Fault Predictability of Software using Deep Learning Techniques with Source Code Metrics, 5th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON-2018) (Jointly Organized by Madan Mohan Malaviya University of Technology, Gorakhpur-273010 (UP)-India & University of the Ryukyus, Okinawa, Japan, 2-4 Nov 2018).
3. Guru Prasad Bhandari and Ratneshwer Gupta, Machine learning based software fault prediction utilizing source code metrics (Accepted), 3rd IEEE International Conference on Computing, Communication and Security (IEEE Explore and EI Compendex indexed), Organized by IEEE Nepal Subsection, Kathmandu, Nepal, 25-27 November, 2018.
4. Guru Prasad Bhandari, Ratneshwer. A fault propagation approach for SOA fault management using Petri Nets. Conference on Information and Communication Technology (CICT'17), At Atal Bihari Vajpayee Indian Institute of Information Technology and Management, Gwalior, 3-5 November 2017(IEEE Explore and Scopus indexed).
5. Guru Prasad Bhandari, Ratneshwer. UML Class Diagram from Object Oriented Program for Reverse Engineering Purpose. International Conference on Innovative Entrepreneurship and Startup.03 to March 04, 2017). K. N. I. T., SULTANPUR (UP).
6. V. Kushwaha, R. Gupta, Interaction Studies of Some Recent AQMs with High Speed TCPs through Experimental Evaluation, In IJCA Proceedings on National Conference on Advances in Computing Applications NCACA 2016(1):30-37, September 2016.
7. Tripathi, A., Gupta, R. (2014). 'Some Pertinent Issues and Considerations on CBSE'. *World Academy of Science, Engineering and Technology, International Science Index, Computer and Information Engineering*, 2(9), 787.
8. Pawan Kumar, Ratneshwer, "A Review on Dependency Analysis of SOA based System", 2014 Fifth International Conference on Recent Trends in Information, Telecommunication and Computing, (IEEE Explore), 21-22 March, Chandigarh, pp. 69-81. ISBN: 978-1-63266-262-0.

9. Vandana Kushwaha, Ratneshwer, "An Analysis of Performance Parameters for Congestion Control in High-speed Wired Network", In proceedings of ICCCT 2013 (IEEE Explore), MNNIT Allahabad.
10. Ratneshwer, A K Tripathi, "A Use Case Based Effort Estimation for CBSE", National Conference on Artificial Intelligence and Agents: Theory and Applications, organized by Department of Computer Engineering, IT-BHU, Varanasi on dated 9-11 December 2011.
11. Ratneshwer, Vivek Srivastava, "Some Reusable Artifacts Generation Approaches for MNREGA Systems", National Conference on "The role of IT in National Rural Employment Guarantee Act (NREGA)", Organized by Tata Institute of Social Sciences and Computer Society of India, 21-22 April 2011.
12. Ratneshwer, Divya Gupta, "An Approach towards Component Based Software Measurement", INDIACom 2011, 5th national Conference on Computing for Nation Development, March 10-11, 2011, New Delhi, India.
13. Ratneshwer, A K Tripathi, "Towards Modeling Component's Dependencies", 1st India Workshop on Advances in Model based Software Engineering (WAMBSE 2010) co-located at 3rd ISEC2010, Mysuru, 25 -27, February 2010.
14. A. K. Tripathi, Ratneshwer, "Some Observations on a Maturity Model for CBSE," ICECCS, pp.273-281, 2009 14th IEEE International Conference on Engineering of Complex Computer Systems, 2009, Potsdam, Germany, pp. 273-281.
15. Ratneshwer, "A Maturity Model for CBSE", In Proceedings of 2nd India Software Engineering Conference, Poster Presentation, Pune, India on dated 23-27 Feb 2009.
16. Ratneshwer and Manjari Gupta, "Component Based Health Care Software Systems for Rural Areas", paper published in a book People's Empowerment and Sustainable Rural Development: A Technological Approach, ISBN 81-316-0126-9, Rawat Publications, 2009.
17. Ratneshwer, "A Software Component Generation Model", In Proceedings of International Congress on Pervasive Computing and Management, New Delhi, India on dated Dec 12-14, 2008.
18. Ratneshwer and Rajeev Srivastava, "*Component Based Software Engineering for E-Governance Systems*", In Proceedings of the *National Conference on "Methods and Models in Computing(NCM2C-07)"*, organized by School of Computer and System Sciences, Jawaharlal Nehru University, New Delhi on dated December 13-14, 2007, pp. 33-40.
19. Ratneshwer, "Some Observations on Composability", In Proceedings of International Conference on Information & Communication Technology (IICT -2007), DIT Dehradun , India (UA), PP. 963-65.
20. Ratneshwer, "Reverse Engineering for Components Creations", In Proceedings of National Conference of Emerging Technologies and Trends in IT 2007, India Habitat center, New Delhi, 7-8 April 2007, pp. 135-139.
21. Ratneshwer, "A Comparative Analysis of Testing and Maintenance Processes for Component Based Software" In Proceedings of 'International conference on Research in Management and Technology' organized by Gian Jyoti Institute of Management & Technology (GJ-IMT)

Phase-2, Sector: 54, Mohali, Chandigarh, India-160055, 14-15 March 2007.

22. Ratneshwer and Shyam S Pendeya, "A Possible Component Interaction Graph Approach for Maintenance in CBSE", in Proceedings of 'National Conference on Methods and Models in Computing', organized by School of Computer and System Sciences, Jawaharlal Nehru University, New Delhi, on the dates 18-19 Dec 2006, pp. 19-25.

Member in Editorial Board

- International journal of Students' Research in Technology & Management

Achievements

- Awarded **National Doctoral Fellowship** by All India Council for Technical Education, Government of India, New Delhi.
- Awarded **Junior Research Fellowship** and qualified **National Eligibility Test for Lectureship**, in Computer Science and Application, by University Grant Commission, New Delhi, India.