V. B. Singh, Ph.D.

Professor
Formerly Associate Dean
School of Computer & Systems Sciences
Jawaharlal Nehru University, New Delhi-110067
India
Room no. 112 and 212
vbsingh@mail.jnu.ac.in vbsingh@jnu.ac.in
9911351168

Research Interest : Machine Learning, Deep Learning, Quantum Machine Learning, Empirical Software Engineering, Software Evolution

Educational Qualification: MC.A., M.M.M. Engineering College, Gorakhpur, UP,1996

Ph.D. , University of Delhi, 2008

Teaching and Research Experience: 28 years

Published more than 100 research papers

Members in committees:

- Chairperson, Annual Report and JNU News of the University,
- Director, Training and Placement cell , JNU
- Member, Higher Academic Grade Committee, ICAR, New Delhi,
- Member, Academic council, Indira Gandhi Delhi Technical University for Women
- Member, CAS Committee, JNU
- Member, CIS advisory, JNU
- Member, Board of Studies, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow
- Member, Academic Committee of IUAC, New Delhi
- Chairperson, NAAC, SC & SS, JNU
- Chairperson, Evaluation committee, Research Reading and Seminar Course, M.Tech (CS 801)
- Chairperson, Evaluation committee, Research Reading and Seminar, Ph.D Course
- Chairperson, Coordination cum Advisory Committee for MCA Programme
- Chairperson, Project Evaluation, MCA Programme
- Chairperson, Cyber Security, SC & SS, JNU
- Member, Governing Body, Dyal Singh College, University of Delhi
- Member, Screening Committee for promotion to the post of Professor, Dyal Singh College, University of Delhi
- Member, Screening Committee for promotion to the post of Professor, Dyal Singh College Evening, University of Delhi

- Convener, Academic Planning, Workload and Library Committee Dyal Singh College, University of Delhi

Research Supervision:

1. Upasana Singh " Steganography" pursuing JNU
2. Shrashti Mourya. " Code Smell Detection", pursuing JNU
3. Shikha Sharma. " Code Refactoring ", pursuing JNU
4. Shil Vardhan Singh " Automatic Code Generation" pursuing JNU
5. Pradeep Kumar (2024) "Some Contributions To Stochastic Mathematical Modelling and Optimization Problems In Software Reliability and Marketing", external guide, Amity University
6. Vinita Verma(2023) "Malware Detection for Windows Operating System", University of Delhi
7. Sushil Kumar (2023) "Prediction Models for Orthogonal Defect Classification" University of Delhi
8. Madhu Kumari (2020) "Entropy Based Approach for Software Evolution, Bug Severity and Priority Prediction" , University of Delhi
9. Meera Sharma (2017) "Developing Prdiction Models to Assist Software Developers and Support Managers". University of Delhi
10. K.K. Chaturvdi (2014) "'Bug Severity Assessment and the Complexity of Code Changes Based Prediction Models". University of Delhi
11. Saru Dhir (2016) "Requirement Modeling for Agile Processes", external guide, Amity University
12. Nikita Yadav (2013) " A Study on Quality Issues in Cloud Computing Services".
13. Seema Rani "Empirical Software Engineering" Perusing, pursuing, University of Delhi

Research Papers in refereed/indexed journals

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2. Singh, U., **Singh, V.B.** An efficient scheme for sharing secret information. Int J Syst Assur Eng Manag (2024). https://doi.org/10.1007/s13198-024-02659

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11. Singh V, Kumar V, **Singh VB.** A hybrid novel fuzzy AHP-Topsis technique for selecting parameter-influencing testing in software development. Decision Analytics Journal. 2023 Mar 1;6:100159.

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15. Kumar P, Chaudhary K, Kumar V, **Singh VB**. Advertising and pricing policies for a diffusion model incorporating price sensitive potential market in segment specific environment. International Journal of Mathematical, Engineering and Management Sciences. 2022;7(4):547.

16. Tandon S, Kumar V, **Singh VB**. Empirical evaluation of code smells in open-source software (OSS) using Best Worst Method (BWM) and TOPSIS approach. International Journal of Quality & Reliability Management. 2022 Feb 22;39(3):815-35.

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Research papers presented / Invited Talk/Session Chair/Lecture Delivered

1. Keynote Speaker, Jammu Central University Jaamu(August, 22-23),2024
2. Speaker , Galgotia Engineering College, 2024
3. MMUT, Kurukshetra
4. MMUT, Kashmir University
5. Singh V.B., Software Evolution: Machine Learning Approach, "6th International Conference on Recent Trends in Materials and Devices"-ICRTMD-2023, during 19th-20th December 2023 at Amity University Uttar Pradesh, Noida, India
6. Singh V.B., Software Reliability Growth Models, UGC-MMTTC, JNU, 13th March, 2024
7. Singh V.B., Software Evolution: A Mathematical Model and Machine Learning Approach International Conference On Statistics, Data Science and Reliability: Exploring Trends, Methods & Applications In Conjunction with 7th Convention of Indian Association for Reliability and Statistics, M.D. University, Rohtak, December 24-26, 2023

8. Singh V. B., Talk on "Software Evolution: Exploring the Interplay of Uncertainty, sustainability and change" 3rd International Conference on Recent Trends in Engineering, Technology and Business Management, Amity University Campus, Sector – 125, Noida, India Feb. 21-23, 2024
9. Singh V. B., "An Efficient Technique for Sharing Secret Information", 3rd International Conference on Recent Trends in Engineering, Technology and Business Management, Amity University Campus, Sector – 125, Noida, India Feb. 21-23, 2024

10. **Singh V. B.,** "Programming Constructs based Bug Prediction using Entropy" 3rd International Conference on Recent Trends in Engineering, Technology and Business Management, Amity University Campus, Sector – 125, Noida, India Feb. 21-23, 2024

11. **Singh V. B.,** "Resource allocation model for Software code smells", 3rd International Conference on Recent Trends in Engineering, Technology and Business Management, Amity University Campus, Sector – 125, Noida, India Feb. 21-23, 2024

12. **Singh V. B.,** "Modeling multi-patch multi-release software reliability growth model with testing effort", 3rd International Conference on Recent Trends in Engineering, Technology and Business Management, Amity University Campus, Sector – 125, Noida, India Feb. 21-23, 2024

13. **Singh V. B.,** "Software Evolution: Sustainability Around Uncertainty", 3rd International Conference on Recent Trends in Engineering, Technology and Business Management, Amity University Campus, Sector – 125, Noida, India Feb. 21-23, 2024

14. **Singh VB** "Open Source Community Contributions" , University of Kashmir, Srinagar , July 18-July 31, 2023.

15. Invited Lecture on "Open-Source Software Evolution: A Machine Learning Centric Approach" 13th Triennial International Conference of the Association of the Asia Pacific Operational Research Societies (APORS) to be held on November 9 - 12, 2022 at Eastwood Richmonde Hotel, 17 Orchard Road, Eastwood City, Bagumbayan, Quezon City, 1110 Philippines.

16. V.B. Singh, "Bug Prediction Techniques: Analysis and Review" 2nd International Conference on Recent Trends in Engineering, Technology and Business Management " (ICRTETBM 2023), Feb. 22-24, 2023 at Amity University Campus, Sector – 125, Noida, Uttar Pradesh, India

17. V.B. Singh, "Developing Classifiers By Considering Sentiment Analysis of Reported Bugs for Priority Prediction", 2nd International Conference on Recent Trends in Engineering, Technology and Business Management (ICRTETBM 2023), Feb. 22-24, 2023 at Amity University Campus, Sector – 125, Noida, Uttar Pradesh, India

18. Chief Guest, Workshop on Computer Algebra System, Ramjas College, University of Delhi, 22.03.2023

19. Delivered an invited lecture for faculty refresher course Programme being organized by UGC- HRDC University of Kashmir during 04 march, 2022, titled " Resaerch Methodology"

20. Delivered a lecture titled " Can Professors be Intellectual Leaders" on 3rd Short Term Course in Academic Leadership and Resources Management organized by UGC- HRDC JNU during 09 March, 2022

21. Delivered distinguished invited lecture for enhancing the professional competence of University and College teachers in the "8th GURU DAKSHTA" a Faculty Induction Programme being organized by UGC- HRDC, University of Allahabad for newly appointed faculty members during 01April 2022, titled " Being Professor is an Opportunity"

22. Delivered distinguished invited lecture on "A Machine Learning Approach to Open Source Software Evolution" at Amity Center for Interdisciplinary Research (ACIDR), Amity University, Noida, India jointly with Society for Reliability Engineering, Quality and Operations Management (SREQOM) on Tuesday, 15th March 2022.

23. Delivered an invited lecture during 08 march, 2022, titled " Open Source Software Evolution", ARSD College, University of Delhi

24. Delivered an invited lecture during 27 mrach, 2022, titled " Research Methodology", Gurukula Kangri Vishwavidyalaya, Haridwar - 249404, Uttarakhand

25. Distinguished Speaker, DSPP&G, IOE, University of Delhi, NLUJA, Assam, Bhartiya Shikshan Mandal and NIOS, Ministry of Education, Government of India, 18 October, 2021 to 24 October, 2021

26. Distinguished Speaker, "Understanding the Development of Open Source Software", Pre Conference FDP cum Enrich program, ,Innovation in Computing and Information Technology , 31 August-2 September, 2021, Amity University , Noida, UP

27. Distinguished Speaker, Reliaility Anaysis of Software Products , December, 02, 2020, Trends and Best Practices in Reliability and Quality Management, Institute of Technology Management, DRDO, Govt. of India

28. Chair, Conference on Software Engineering and Data Science, University of Kashmir, June 20,2018, University of Kashmir

29. Session Session chair, Joint International Conference on Interdisciplinary Research and 8th International Conference on Quality, Reliability, Infocom Technology and Business Operations, Amity University ,Noida, UP Feb. 8, 2017

30. Capacity-Building Workshop, Institute of Life Long Learning, University of Delhi, Feb.,4,2016, ILLL, University of Delhi, Delhi

31. Towards More Accurate Software Bug Assignment Prediction Model, INBUSH ERA World, Amity Univsity, Noida,2017

32. Quantitative Methods in Open Source Software Evolution: Modeling and Applications, Babasaheb Bheem Rao Ambedkar Central University, Lucknow, 2016.

33. The Way Ahead for Bug-fix time Prediction, ASIA-Pacific Software Engineering Conference (APSEC), New Delhi, India, 2015.

34. Post release versions based code change quality metrics, Women in Computing and Informatics(WCI-2015), School of Engineering & Technology, Kochi, Kerala,2015.

35. Softawre Reliability Engineering, 4th International Conference on Reliability(ICRITO), Amity Institute of Information Technology Amity University Uttar Pradesh, 2015.

36. Software Reliability, 17th Refresher Course in Computer Science and Information Technology, Academic Staff College, JNU, 2014.

37. Understanding the meaning of bug attributes & prediction models, 5th IBM Collaborative Academia Research Exchange, 2013.

38. Measuring the Complexity of Code Changes and its Applications, Amity School of Engineering and Technology, New Delhi, 2013.

39. Workshop on Foundation Course, Centre for Professional Development in Higher Education University of Delhi, 2013.

40. DST, PAC-MS, Department of Mathematics (IIT Bombay), 2012.

41. Instruction executed dependent software reliability growth modeling for open source software by considering change point, INDIACOM, 2010.

42. A reliability growth model for object oriented software developed under concurrent distributed development environment, ICRESH, 2010.

43. A generalised reliability growth model for open source software, ICRESH, 2010.

44. ILLL Workshop Tier-II, University of Delhi, 2010

45. Distribution based changepoint problem with two types of imperfect debugging, INDIACOM, 2009.

46. Reliability Modeling of Open Source Softawre,I-CARE, IBM-IRL Collaborative Academia Research Exchange, IBM Research-India, 2009.

47. ILLL Workshop Tier II, University of Delhi, 2009.

48. Innovative Quality Practices-Six sigma robust design for e-BUSINESS EXCELLENCE, Department of Science and Technology, Govt. of India, New Delhi, 2008.

49. International Conference on Reliability Safety and Quality Engineering, Nuclear Power Corporation of India Limited & Indian Institute of Technology, Bombay, 2008.

50. Considering imperfect debugging and change point concept in discrete software reliability with multiple failure types, National Conference on Mathematical Modeling optimization and their applications, University of Delhi , 2007.

51. On the development of S Shaped Models in Software Reliability, INDIACOM, 2007.

52. On modeling software reliability growth phenomenon for errors of different severity INDIACOM, 2007.

53. Software Reliability, N.C. College of Engineering Israna-132107 (Panipat), 2007.

54. Software Reliability Growth Model for Determining Fault Types, 3rd International Conference on Reliability and Safety Engineering (INCRESE2007), Udaipur.

55. Effect of changepoint on software reliability growth models using stochastic differential equation, 3rd International Conference on Reliability and Safety Engineering (INCRESE2007), Udaipur, 2007.

56. Software Reliability Growth Model of Fielded Software based on multiple change points using a power function of testing time, ICQRIT, 2006.

57. VLDB Summer School on Frontirs of Database Technology, IIT Delhi, 2004.

Research Projects

Title	Quantitative and Empirical Methods in Open Source Software Evolution: Modeling and Applications Mathematical Research impact centric Support "MATRICS", Science and Engineering Research Board, Department of Science and Technology, Govt.of India, MTR/2019/001564, ongoing
Title	Mathematical Modeling of Quantitative Software Quality Assessment : A Unified Approach
Funding agency	Department of Science and Technology, Government of India
Grant received:	Rs. 10,67000
Period	03 years(completed)

Title   Quantitative Assessment of Software Fault Complexity

 Funding agency   University Grants Commission, New Delhi
 Grant received: Rs. 10,0000
Period   01 years(completed)

 Title   A Study of Stress Levels and Stress Sources Among undergraduate
                                 Students of University of of Delhi
 Funding agency   University of Delhi,Delhi
 Grant received: Rs. 10,00000
Period   01 years(completed)

Cloud supported and machine-learning driven efficient IOT based watering system for home based plants", dated 10.12.2021, application number 202111056538 A

Book Published

1. Essential of Computer Network Database   Narosa Internet Technology
            Publisher.2013

Book Chapter

1. " On the Development of Discrete Software Reliability Growth   Models" in the Handbook of Performability   Engineering,Misra, Krishna B. (Ed.) 2008, XLVIII, 13 16 p. 408 illus., Hardcover ISBN: 978-1-84800-130-5, Springer Verlag London, pp.1239-1254

2. "Modeling and Analysis of Fault Dependency in Software Reliability Growth Modeling", in System Reliability Management: Solutions and Technologies, Taylor & Francis, ISBN 9780815360728, 2018

3. Kumar S, Sharma M, Muttoo SK, Singh VB. Machine Learning Based Software Defect Categorization Using Crowd Labeling. InPredictive Analytics in System Reliability 2022 Sep 9 (pp. 213-227). Cham: Springer International Publishing.

Award

Award for contribution as promising author and Researcher in the field of Computer Science by Society for Reliability Engineering, Quality and Operations Management,New Delhi,India 2012

Offered Courses MCA/M.Tech.

Object Oriented Programming, Software Engineering, Advanced Software Engineeering