

**Dr. Alka**  
**Assistant Professor**  
**Department of Information Technology**  
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**Webpages:**

Google Scholar (<https://scholar.google.com/citations?user=luBhNRQAAAAJ&hl=en>)  
 Scopus (<https://www.scopus.com/authid/detail.uri?authorId=26632917100>)  
 Web of Science: ResearcherID (<https://publons.com/researcher/3349313/alka-agrawal/>)  
 Research Gate ([https://www.researchgate.net/profile/Alka\\_Agrawal](https://www.researchgate.net/profile/Alka_Agrawal))

**Educational Qualification**

	<b>Organization</b>	<b>Year of Award</b>
<b>Undergraduate</b>	C.S.J.M.U., Kanpur	1998
<b>Post-graduation</b>	U.P.T.U., Lucknow	2003
<b>Ph.D.</b>	B.B.A.U., Lucknow	2013
<b>Post-Doctoral Fellow</b>	Aligarh Muslim University, Aligarh (Under UGC-Dr. Kothari Post-Doctoral Fellowship)	2013 (Transferred to Permanent Faculty Position)

**Professional Experience (In Years)**

**Teaching Experience:** 8 Years  
**Research Experience:** 13 Years

**Areas of Research (Maximum Five Bullet Points)**

Software Security, Information Security, Big Data Security, Network Security.

**Research/Consultancy Grants**

<b>Title of Projects</b>	<b>Funding Agency</b>	<b>Duration (Specific Dates)</b>	<b>Total Grant</b>	<b>Role (PI/CO-PI)</b>
Design and Development of Software Security-Durability Mechanism to make Digital India Initiative more Secure	Council of Science & Technology, UP, India	Ongoing from Feb. 13, 2020.	Rs. 7, 80,000/-	Principal Investigator

**Publications [1-111]**

<b>International</b>	
Cumulative Impact Factor= <b>85.817</b>	Average Impact Factor= <b>2.861</b>
<b>INDEXED IN SCI/SCIE/ESCI/WEB OF SCIENCE/SCOPUS AND Q1 QUARTILE</b>	

1. Alka, et. al., (2021). Exploring the Topological Properties of the Tor Dark Web, *IEEE Access*. IEEE. Article in press. DOI: 10.1109/ACCESS.2021.3055532.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 3.745
  - Quartile: Q1
2. Alka, et. al., (2021), A Hybrid Fuzzy Rule-Based Multi-Criteria Framework for Sustainable-Security Assessment of Web Application, article in press. *Ain Shams Engineering Journal*, Elsevier. DOI: 10.1016/j.asej.2021.01.003.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 1.949
  - Quartile: Q1
3. Alka, et. al., (2020). Evaluating the impact of software security tactics: a design perspective. *Computers, Materials & Continua*, vol. 66, no. 3, pp. 2283–2299, Tech Science Press.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 4.890
  - Quartile: Q1
4. Alka, et. al., (2020). A fuzzy TOPSIS based analysis toward selection of effective security requirements engineering approach for trustworthy healthcare software development. *BMC Medical Informatics and Decision Making*, vol. 20, no. 263, pp. 2283–2299, Springer Nature.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 2.137
  - Quartile: Q1
5. Alka, et. al., (2020), Evaluating the Impact of Blockchain Models for Secure and Trustworthy Electronic Healthcare Records, *IEEE Access*, vol. 8, pp. 157959-157973, IEEE.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 4.098
  - Quartile: Q1
6. Alka, et. al., (2020), Evaluating the Security Impact of Healthcare Web Applications through Fuzzy Based Hybrid Approach of Multi-Criteria Decision-Making Analysis, *IEEE Access*, Vol. 8, pp. 135770-135783, IEEE.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 4.098
  - Quartile: Q1
7. Alka, et. al., (2020), Security Risk Assessment of Healthcare Web Application through Adaptive Neuro-Fuzzy Inference System: A Design Perspective, *Risk Management and Healthcare Policy*, Volume 13, pp. 355-371, Dove Press.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 2.283
  - Quartile: Q1
8. Alka, et. al., (2020), A Hybrid Model of Hesitant Fuzzy Decision- Making Analysis for Estimating Usable- Security of Software, *IEEE Access*, Volume 8, Issue 4, pp. 72694-72712. IEEE.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 4.098 (JCR)
  - Quartile: Q1
9. Alka, et. al., (2020), An Integrated Approach of Fuzzy Logic, AHP and TOPSIS for Estimating Usable-Security of Web Applications, *IEEE Access*, Volume 8, Issue 3, pp. 50944-50957. IEEE.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 4.098 (JCR)

- Quartile: Q1
- 10. Alka, et. al., (2020), A Knowledge Based Integrated System of Hesitant Fuzzy Set, AHP and TOPSIS for Evaluating Security-Durability of Web Applications, *IEEE Access*, Volume 8, Issue 2, pp. 48870-48885. IEEE.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 4.098 (JCR)
  - Quartile: Q1
- 11. Alka, et. al., (2020), Attribute Based Honey Encryption Algorithm for Securing Big Data: Hadoop Distributed File System Perspective, *PeerJ Computer Science*, Feb 2020. PeerJ Inc.,
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 3.091
  - Quartile: Q1
- 12. Alka, et. al., (2020), Key Issues in Healthcare Data Integrity: Analysis and Recommendations, *IEEE Access*, Volume 8, Issue 1, pp. 40612-40628. IEEE.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 4.098 (JCR)
  - Quartile: Q1
- 13. Alka, et. al., (2020), Evaluating Performance of Web Application Security through a Fuzzy based Hybrid Multi-Criteria Decision-Making Approach: Design Tactics Perspective, *IEEE Access*, Volume 8, 2020, pp. 25543-25556. IEEE.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 4.098 (JCR)
  - Quartile: Q1
- 14. Alka, et. al., (2019), Measuring the Sustainable-Security of Web Applications through a Fuzzy-Based Integrated Approach of AHP and TOPSIS, *IEEE Access*, Volume 7, 2019, pp. 153936-153951, Nov-2019. IEEE.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 4.098
  - Quartile: Q1
- 15. Alka, et. al., (2019), Security durability assessment through Fuzzy Analytic Hierarchy process, *PeerJ Computer Science*, PeerJ Inc., DOI: <https://doi.org/10.7717/peerj-cs.215>
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 3.091
  - Quartile: Q1
- 16. Alka, et. al., (2019), Measuring Security-Durability through Fuzzy Based Decision-Making Process, *International Journal of Computational Intelligence Systems*, Volume 12, Issue 2, pp. 627 – 642, Atlantis Press.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 2.135 (JCR)
  - Quartile: Q1
- 17. Alka, et. al., (2021). Usability Evaluation through Fuzzy AHP-TOPSIS Approach: Security Requirement Perspective. *Computers, Materials & Continua*. Tech Science Press. (Accepted).
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 4.890
  - Quartile: Q1
- 18. Alka, et. al., (2021). Impact Assessment of COVID-19 Pandemic through Machine Learning Models. *Computers, Materials & Continua*. Tech Science Press. (Accepted).
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 4.890
  - Quartile: Q1
- 19. Alka, et. al., (2021). A Link Analysis Algorithm for Identification of Key Hidden Services. *Computers, Materials & Continua*. Tech Science Press. (Accepted).

- Indexed in SCI-E, WoS, Scopus
- Impact Factor: 4.890
- Quartile: Q1

**INDEXED IN SCI/SCIE/ESCI/WEB of SCIENCE/SCOPUS AND Q2 QUARTILE**

- Alka, et. al., (2021). A Multi-Perspective Benchmarking Framework for Estimating Usable-Security of Hospital Management System Software Based on Fuzzy Logic, ANP and TOPSIS Methods, *KSII Transactions on Internet and Information Systems*, vol. 15, no. 1, pp. 240-263, Korea Society for Internet Information.
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 0.648
  - Quartile: Q2
- Alka, et. al., (2021). Estimating the Impact of COVID-19 Pandemic on the Research Community in the Kingdom of Saudi Arabia. *CMES-Computer Modeling in Engineering & Sciences*, 126(1), 419-436. (Available at: <https://www.techscience.com/CMES/v126n1/40879>)
  - Indexed in SCI-E, Scopus
  - Quartile: Q2
  - Impact Factor: 0.805
- Alka, et. al., (2020), Fuzzy Multi Criteria Decision Analysis Method for Assessing Security Design Tactics for Web Applications, *International Journal of Intelligent Engineering and Systems*, Vol.13, No.5, pp. 181-196, Intelligent Networks and Systems Society.
  - Indexed in Scopus
  - Quartile: Q2
- Alka, et. al., (2020), Security Issues in Fog Environment: A Systematic Literature Review, *International Journal of Wireless Information Networks*, Vol. 27, pp. 467-483, Springer.
  - Indexed in E-SCI, WoS, Scopus
  - Quartile: Q2
- Alka, et. al., (2020), A Hybrid Fuzzy Rule-Based Multi-Criteria Framework for Security Assessment of Medical Device Software, *International Journal of Intelligent Engineering and Systems*, Vol.13, No.5, pp. 51-62, Intelligent Networks and Systems Society.
  - Indexed in Scopus
  - Quartile: Q2
- Alka, et. al., (2020), Healthcare Data Breaches: Insights and Implications, *Healthcare*, 8 (133), pp. 1-18. Multidisciplinary Digital Publishing Institute (MDPI). DOI: 10.3390/healthcare8020133
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 1.935 (JCR)
  - Quartile: Q2
- Alka, et. al., (2020), Fuzzy-Based Symmetrical Multi-Criteria Decision-Making Procedure for Evaluating the Impact of Harmful Factors of Healthcare Information Security, *Symmetry*, 12 (664), pp. 1-23. Multidisciplinary Digital Publishing Institute (MDPI).
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 2.643 (JCR)
  - Quartile: Q2
- Alka, et. al., (2020), Software Security Estimation Using the Hybrid Fuzzy ANP-TOPSIS Approach: Design Tactics Perspective, *Symmetry*, 12 (4), pp. 1-21. Multidisciplinary Digital Publishing Institute (MDPI).
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 2.643 (JCR)
  - Quartile: Q2

28. Alka, et. al., (2020), A wakeup Call to Data Integrity Invulnerability, *Computer Fraud & Security*, Volume 2020, Issue 4, pp. 14-19. Elsevier. Available at Thomson Reuters.
  - Indexed in WoS, Scopus
  - Quartile: Q2
29. Alka, et. al., (2020), Evaluating Performance of Software Durability through an Integrated Fuzzy-Based Symmetrical Method of ANP and TOPSIS, *Symmetry*, 12(3), pp. 1-17. Multidisciplinary Digital Publishing Institute (MDPI).
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 2.256 (JCR)
  - Quartile: Q2
30. Alka, et. al., (2020), A Unified Fuzzy-Based Symmetrical Multi-Criteria Decision-Making Method for Evaluating Sustainable-Security of Web Applications, *Symmetry*, 12(3), pp. 1-23. Multidisciplinary Digital Publishing Institute (MDPI).
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 2.256 (JCR)
  - Quartile: Q2
31. Alka, et. al., (2020), Ranking Potentially Harmful Tor Hidden Services: Illicit Drugs Perspective, *Applied Computing and Informatics*, DOI: <https://doi.org/10.1016/j.aci.2020.02.003>. Elsevier.
  - Indexed in Scopus
  - Quartile: Q2
32. Alka, et. al., (2019), RSA based Encryption Approach for Preserving Confidentiality of Big Data, *Journal of King Saud University-Computer and Information Sciences*, pp. 1-9, (Article in Press) October-2019, Elsevier.
  - Indexed in E-SCI, WoS, Scopus
  - Quartile: Q2
33. Alka, et. al., (2019), Source Code Perspective Framework to Produce Secure Web Application, *Computer Fraud & Security*, Elsevier. Available at Thomson Reuters, October 2019.
  - Indexed in WoS, Scopus
  - Quartile: Q2
34. Alka, et. al., (2019), Multi-level Fuzzy System for Usable-Security Assessment, *Journal of King Saud University-Computer and Information Sciences*, pp. 1-9, (Article in Press) April-2019, Elsevier.
  - Indexed in E-SCI, WoS, Scopus
  - Quartile: Q2
35. Alka, et. al., (2021). Prediction of COVID-19 Pandemic Spread in Kingdom of Saudi Arabia, *Computer Systems Science and Engineering*, Tech Science Press. (Accepted).
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 0.278
  - Quartile: Q2
36. Alka, et. al., (2021). Managing Software Security Risks through an Integrated Computational Method. *Intelligent Automation & Soft Computing*, Tech Science Press. (Accepted).
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 1.276
  - Quartile: Q2
37. Alka, et. al., (2021). An Ensemble Approach to Detect Firearm Listing for Identification of Key Vendors on the Dark Web Cryptomarkets, *Computer Systems Science and Engineering*, Tech Science Press. (Accepted).
  - Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 0.278
  - Quartile: Q2

38. Alka, et. al., (2021). Impact of COVID-19 Pandemic: A Cybersecurity Perspective. *Intelligent Automation & Soft Computing*, Tech Science Press. (Accepted).
- Indexed in SCI-E, WoS, Scopus
  - Impact Factor: 1.276
  - Quartile: Q2
39. Alka, et. al., (2021), “Quantitative Analysis of Software Security through Fuzzy PROMETHEE-II Methodology: Design Perspective,” *International Journal of Mathematical Sciences and Computing*. (Accepted).
- Indexed in Scopus
  - Quartile: Q2

**INDEXED IN SCI/SCIE/ESCI/WEB OF SCIENCE/SCOPUS AND Q3 QUARTILE**

40. Alka, et. al., (2020), A Framework for Producing Effective and Efficient Secure Code through Malware Analysis, *International Journal of Advanced Computer Science and Applications*, Vol. 11, Issue 2, pp. 497-503, The Science and Information (SAI) Organization Limited.
- Indexed in E-SCI, Scopus
  - Quartile: Q3
41. Alka, et. al., (2020), A Fuzzy Multi-Objective Covering-based Security Quantification Model for Mitigating Risk of Web based Medical Image Processing System, *International Journal of Advanced Computer Science and Applications*, Vol. 11, Issue 1, pp. 481-489, The Science and Information (SAI) Organization Limited.
- Indexed in E-SCI, Scopus
  - Quartile: Q3
42. Alka, et. al., (2019), METHWORK: An Approach for Ranking in Research Trends with a Case Study for IoET, *Recent Patents on Computer Science*, pp. 45-49, Bentham Science.
- Indexed in Scopus
  - Quartile: Q3
43. Alka, et. al., (2014), Assessing Impact of Cohesion on Security- An Object Oriented Design Perspective, *Pensee Journal*, Vol 76, No. 2, pp. 144-155, Espaces Marx.
- Indexed in Scopus
  - Quartile: Q3
44. Alka, et. al., (2010), Confidentiality Checking an Object-Oriented Class Hierarchy, *Network Security*, Vol. 2010, Issue 3, pp. 16-20, Elsevier.
- Indexed in Scopus
  - Quartile: Q3
45. Alka, et. al., (2009), Measuring Vulnerability of an Object-Oriented Design, *Network Security*, Vol. 2009, and Issue 10, pp. 13-17, Elsevier.
- Indexed in Scopus
  - Quartile: Q3

**INDEXED IN SCI/SCIE/ESCI/WEB OF SCIENCE/SCOPUS AND Q4 QUARTILE**

46. Alka, et. al., (2019), Securing Web Applications through a Framework of Source Code Analysis, *Journal of Computer Science*, pp. 1-16, 2019, Science Publications.
- Indexed in Scopus
  - Quartile: Q4
47. Alka, et. al., (2019), Usable-Security Assessment through a Decision Making Procedure, *ICIC Express Letters-Part B, Applications*, Volume 12, Number 8, pp. 665-672, IEEE.
- Indexed in Scopus
  - Quartile: Q4

48. Alka, et. al., (2019), Usable-Security Attribute Evaluation using Fuzzy Analytic Hierarchy Process, *ICIC Express Letters-An International Journal of Research and Surveys*, Volume 13, Number 6, pp. 453-460.
  - Indexed in Scopus
  - Quartile: Q4
49. Alka, et. al., (2018), Attribute based Honey Encryption for Data Security, *Journal of Advanced Research in Dynamical and Control Systems*, Vol. 10, 14-Special Issue, pp. 1800-1807.
  - Indexed in Scopus
  - Quartile: Q4
50. Alka, et. al., (2018), Security Challenges and Precautionary Measures: Big Data Perspective, *ICIC Express Letters-An International Journal of Research and Surveys*, Volume 12, Number 9, pp. 947-954.
  - Indexed in Scopus
  - Quartile: Q4
51. Alka, et. al., (2018), TSD Algorithm to Design CA based Expert System for Pipelining to Stop Urban Flood, *International Journal of Engineering and Technology*, Vol. 7, No. 3.1, pp. 56-62.
  - Indexed in Scopus
  - Quartile: Q4
52. Alka, et. al., (2018), Big Data Security Challenges: Hadoop Perspective, *International Journal of Pure and Applied Mathematics*, Vol. 120, No. 6, pp. 11767-11784.
  - Indexed in Scopus
  - Quartile: Q4
53. Alka, et. al., (2018), Privacy Policy: A Novel Approach to Preserve Confidentiality in Big Data, *Journal of Advanced Research in Dynamical and Control Systems*, Vol. 10, 04-Special Issue, pp. 50-56.
  - Indexed in Scopus
  - Quartile: Q4
54. Alka, et. al., (2018), Security Assessment through Fuzzy Delphi Analytic Hierarchy Process, *ICIC Express Letters-An International Journal of Research and Surveys*, Volume 12, Number 10, pp. 1053-1060.
  - Indexed in Scopus
  - Quartile: Q4
55. Alka, et. al., (2018), Parameters to Design an Expert System to Reduce Risk for Rainfall Induced Disaster: Hill Perspective, *International Journal of Pure and Applied Mathematics*, Volume 120, No. 6, pp. 1051-1065.
  - Indexed in Scopus
  - Quartile: Q4
56. Alka, et. al., (2018), Measuring the Security Attributes through Fuzzy Analytic Hierarchy Process: Durability Perspective, *ICIC Express Letters-An International Journal of Research and Surveys*, Volume 12, Number 6, pp. 615-620.
  - Indexed in Scopus
  - Quartile: Q4
57. Alka, et. al., (2018), Major Software Security Risks at Design Phase, *ICIC Express Letters*, Volume 12, No.11, pp. 1804-1809.
  - Indexed in Scopus
  - Quartile: Q4
58. Alka, et. al., (2014), Usability Vulnerability: The Result of Disagreement between Psychology and Technology, *International Journal of Computer Science and Applications*, Volume 1, Number 3, 2014, pp. 195-198.
  - Indexed in Scopus
  - Quartile: Q4

**INDEXED IN SCI/SCIE/ESCI/WEB OF SCIENCE/ SCOPUS**

59. Alka, et. al., (2021), Usable-Security Assessment of Healthcare Software System through Fuzzy ANP-TOPSIS Method, *International Journal of System Dynamics Applications*, IGI Global. (Accepted).
- Indexed in E-SCI, WoS.

#### **PUBLISHED BY REPUTED PUBLISHERS**

60. Alka, et. al., (2019), Cost Estimation of Cellularly deployed IoT Enabled Network for Flood Detection, *Iran Journal of Computer Science*, Volume 2, Issue 1, pp. 53–64, Springer.
61. Alka, et. al., (2018), An Improved Security Threat Model for Big Data Life Cycle, *Asian Journal of Computer Science and Technology*, pp. 33-39, The Research Publication.
62. Alka, et. al., (2018), Big Data Security & Privacy Issues, *Asian Journal of Computer Science and Technology*, pp. 182-193, The Research Publication.
63. Alka, et. al., (2018), Voice Biometric: A Technology For Voice Based Authentication, *Advanced Science, Engineering and Medicine*, Vol. 10, pp. 1-6, American Scientific Publishers.
64. Alka, et. al., (2018), A Novel Drainage System Using Cellular Automata to Avoid Urban Flood, *International Journal of Applied Evolutionary Computation*, Volume 9, Issue 2, IGI Global.
65. Alka, et. al., (2018), A Framework for Speaker Recognition System, *Journal of Biostatistics and Biometric Applications*, Volume 3, Issue 1, part 107, pp. 1-9, Annex Publishers.
66. Alka, et. al., (2017), Automatic Speaker Recognition: Current Approaches and Progress in Last Six Decades, *Global Journal of Enterprise Information System*, Volume 9, Issue 3, pp. 24-29, Informatics Journals Platform.
67. Alka, et. al., (2015), A Critical Review on Automatic Speaker Recognition, *Science Journal of Circuits, Systems and Signal Processing*, Vol. 4, Issue 2, pp. 14-17, Science Publishing Group.
68. Alka, et. al., (2014), Securo-Phobia: A New Challenge to Usage of Security Technologies, *Journal of Software Engineering and Simulation*, Vol. 2, Issue 1, pp. 01-03, Quest Journals Inc.
69. Alka, et. al., (2013), Software Security Metric Development Framework: An Early Stage Approach, *American Journal of Software Engineering and Applications*, Vol. 2, No. 6, pp. 150-155, Science Publishing Group.
70. Alka, et. al., (2012), Role of Coupling in Vulnerability Propagation-Object Oriented Design Perspective, *Software Engineering: An International Journal*, Vol. 2, No. 1, pp. 60-68, Delhi Technological University. .
71. Alka, et. al., (2009), Impact of Inheritance on Vulnerability Propagation at Design Phase, *Software Engineering Notes*, Vol. 34, No. 4, pp. 1-5, ACM SIGSOFT.

#### **OTHER PEER REVIEWED/ICI/UGC LISTED JOURNALS**

72. Alka, et. al., (2018), The Development of Speaker Recognition Technology, *International Journal of Advanced Research in Engineering and Technology*, Volume 9, Issue 3, pp. 8–16.
73. Alka, et. al., (2018), Ransomware: Evolution, Target and Safety Measures, *International Journal of Computer Sciences and Engineering*, Vol. 6, Issue 1, pp. 80-85.
74. Alka, et. al., (2017), A Site Selection Scheme for Emergency Network Deployment: A Metro City Perspective, *Research Journal of Engineering and Technology*, Vol. 9, No. 1, pp. 347-350.
75. Alka, et. al., (2017), An Overview of Privacy Preservation in Big Data, *International Journal of Engineering Sciences & Research Technology*, Volume 6 pp. 61-71.
76. Alka, et. al., (2017), Emergency Information System Architecture for Disaster Management: Metro City Perspective, *International Journal of Advanced Research in Computer Science*, Vol. 8, No. 4, pp. 560-564.
77. Alka, et. al., (2015), An Investigation of Security Mechanisms in Software Defined Networks, *International Journal of Emerging Technology and Research*, Volume 2, Issue 1, pp. 619-627.



78. Alka, et. al., (2015), Flow Installation in Open Flow Based Software Defined Network; A Security Perspective, *International Journal of Emerging Trends & Technology in Computer Science*, Volume 4, Issue 1, pp. 232-237.
79. Alka, et. al., (2014), Gaussian Mixture Model: A Modeling Technique for Speaker Recognition and its Component, *International Journal of Computer Applications*, Volume 10, pp. 28-31.
80. Alka, et. al., (2009), An Algorithm to Measure Attribute Vulnerability Ratio of an Object Oriented Design, *International Journal of Recent Trends in Engineering*, Vol. 2, No. 3, pp. 61-63.
81. Alka, et. al., (2009), A Framework to Detect and Analyze Software Vulnerabilities- Development Phase Perspective, *International Journal of Recent Trends in Engineering*, Vol. 2, No. 2, pp. 82-84.

#### **INTERNATIONAL CONFERENCE PROCEEDINGS**

82. Alka, et. al., (2018), IoT based Alert Network for Flood Generated Emergencies, *Proceedings of the 3rd IEEE conference on Research in Intelligent and Computing in Engineering (RICE-2018)*, at University Don Bosko, El Salvador, Central America, August 2018. DOI: 10.1109/RICE.2018.8509072, IEEE Xplore.
83. Alka, et. al., (2017), Privacy Policies: Preserving Confidentiality of Big Data, *Proceedings of the 3rd International Conference on Computers and Management (ICCM 2017)*, Jaipur, Vol. 1, 2018.
84. Alka, et. al., (2016), A Study of Big Data Characteristics, *Proceeding of the IEEE International Conference on Communication and Electronics Systems (ICCES 2016)*, PPGIT, Coimbatore, India, 21-22 October, pp. 1-4, IEEE Xplore.
85. Alka, et. al., (2016), Parameters and Alert Algorithm for Risk Reduction in Rainfall Induced Disaster, *Proceeding of the 3rd International conference on Recent development in Science, Engineering and Technology, (REDSET-2016)*, GD Goenka University, Haryana, India, 21-22 October, 2016, ISBN: 9789386256096.
86. Alka, et. al., (2016), Big Data: Security Issues and Techniques to Overcome from These Issues, pp. 314-319: *Proceeding of the International Conference on Advanced Computing and Software Engineering (ICACSE-2016)* held at KNIT, Sultanpur (UP), India on dated 14-15 October, 2016 ISBN: 9789386256058.
87. Alka, et. al., (2016), An Approach of a Solar Powered Alert System for Rainfall Triggered Disaster: Flood Perspective, pp. 94-97: *Proceeding of the International Conference on Advanced Computing and Software Engineering (ICACSE-2016)* held at KNIT, Sultanpur (UP), India on dated 14-15 October, 2016 ISBN: 9789386256058.
88. Alka, et. al., (2016), A Review of Geo-informatics Teechnologies Useful for landslide Disaster Management, pp. 98-101: *Proceeding of the International Conference on Advanced Computing and Software Engineering (ICACSE-2016)* held at KNIT, Sultanpur (UP), India on dated 14-15 October, 2016 with ISBN: 9789386256058.
89. Alka, et. al., (2015), Role of VND for Designing of an Infrastructure Based Software Defined Network, *Proceedings of the International Conference on Computing, Communication & Automation (ICCCA-2015)*, pp. 322-325, IEEE Xplore.
90. Alka, et. al., (2015), Prevention Mechanism for Infrastructure based Denial-of-Service Attack over Software Defined Network, *Proceedings of the International Conference on Computing, Communication & Automation (ICCCA-2015)*, pp. 348-353, IEEE Xplore.
91. Alka, et. al., (2011), A Framework for Vulnerability Minimization- Object Oriented Design Perspective, *Proceedings of the 2nd International Conference on Computer and Communication Technology*, 15-17 Sep 2011, (ISBN: 978-1-4577-1385-9), pp. 499-504, IEEE Computer Society.
92. Alka, et. al., (2009), Security Estimation Framework: Design Phase Perspective, *Proceedings of the Sixth International Conference on Information Technology, New Generations, ITNG 2009*, Las Vegas, NV, USA, (ISBN: 978-0-7695-3596-8 ) 27-29 April, 2009, pp. 254-259, IEEE Computer Society.

93. Alka, et. al., (2009), An Efficient Measurement of Object Oriented Design Vulnerability, *Proceedings of the International Dependability Conference*, ARES 2009, Fukuoka, Japan, (ISBN: 978-1-4244-3572-2) 16<sup>th</sup>-19<sup>th</sup> March, pp. 618-623, IEEE Computer Society.
94. Alka, et. al., (2008), Securing Vulnerable Software: A Checklist Approach, *Proceedings of the International Conference on Advanced Computing and Communication Technologies for High Performance Applications*, Kerala, 24-26 sep 2008, pp. 302-309, Sponsored by IEEE & CSI.

## **National**

### **NATIONAL CONFERENCE PROCEEDINGS**

95. Alka, et. al., (2017), Gaussian Mixture Model: A Better Modeling Technique for Speaker Recognition, *Proceedings of the National Conference on Digital India-Altering Landscape, Tracking the Journey to Digitally Empowered*, New India, 9<sup>th</sup> -10<sup>th</sup> Dec 2017, Organized by CSI Lucknow Chapter, pp. 14-18, 2017. ISBN: 978-93-5291-226-1.
96. Alka, et. al., (2016), Text Independent Speaker Identification System and Challenges, *Proceeding of the National Seminar on Emerging Trends & Advancements in Cyber Security*, April-2016, at Integral University, Lucknow.
97. Alka, et. al., (2015), Security Measures of Big Data, *Proceeding of the National Meet for Research Scholars in Computer Science-2015*, organized by DCS- University of Lucknow, Nov. 2015, pp-9.

### **Book Chapters**

98. Selecting and Assessing the Importance of Malware Analysis Methods for Web-based Biomedical Services through Fuzzy based Decision Making Procedure, Alka, et. al., (2020). *Recent advances in Nature Inspired Optimization Algorithms, Techniques and Biomedical Applications*, De-Gruyter. (Accepted)
- Indexed in WoS, ESCI, SCOPUS, ISI, EI-Compendex, DBLP
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99. A Two Step Dimensionality Reduction Scheme for Dark Web Text Classification, Alka, et. al., (2020), *Advances in Intelligent Systems and Computing (Originally Published with the Title: Advances in Intelligent and Soft Computing)*, Springer.
- Indexed in SCOPUS, ISI, EI-Compendex, DBLP
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100. Importance of Fog Computing in Healthcare 4.0, Alka, et. al., (2020), *In Fog Computing for Healthcare 4.0 Environments: Technical, Societal, and Future Implications*, Springer, August 2020.
- Indexed in SCOPUS, ISI, EI-Compendex, DBLP
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101. Managing Multimedia Big Data: Security and Privacy Perspective, Alka, et. al., (2020), *Advances in Intelligent Systems and Computing (Originally Published with the Title: Advances in Intelligent and Soft Computing)*, Springer.
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  - Quartile: Q3
102. Current Challenges of Digital Forensics in Cyber Security, Alka, et. al., (2020), *Critical Concepts, Standards, and Techniques in Cyber Forensics*, IGI Global.
- Indexed in SCOPUS, ISI, EI-Compendex, DBLP
103. Trends in Malware Attacks- Identification and Mitigation Strategies, Alka, et. al., (2020), *Critical Concepts, Standards, and Techniques in Cyber Forensics*, IGI Global.
- Indexed in SCOPUS, ISI, EI-Compendex, DBLP

104. A Step towards Internet Anonymity Minimization: Cyber-crime Investigation Process Perspective, Alka, et. al., (2018), *Advances in Intelligent Systems and Computing*, Vol. 701, pp. 257-265, Springer.
- Indexed in SCOPUS, ISI, EI-Compendex, DBLP
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105. Smartphone with Solar Charging Mechanism to Issue Alert during Rainfall Disaster, Khan R.A., et. al., (2018), *Communications in Computer and Information Science*, Springer Series, Volume 799, pp. 442-449, Springer.
- Indexed in SCOPUS, ISI, EI-Compendex, DBLP
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106. A Phase-wise Review of Software Security Metrics, Alka, et. al., (2017), *Lecture Notes on Data Engineering and Communications Technologies*, Volume 4, pp. 15-25, Springer.
107. Security Integration in Big Data Life Cycle, Alka, et. al., (2017), *Communications in Computer and Information Science*, Volume 721, pp. 192-200, Springer.
- Indexed in SCOPUS, ISI, EI-Compendex, DBLP
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108. Applicability of Software Defined Networking in Campus Network, Alka, et. al., (2015), *Advances in Intelligent Systems and Computing*, Volume-433, pp. 629-637, Springer.
- Indexed in SCOPUS, ISI, EI-Compendex, DBLP
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109. Assessing and Improving Encapsulation for Minimizing Vulnerability of an Object Oriented Design, Khan R.A., et. al., (2011), *Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering*, Volume 250, pp. 531-533, Springer.
- Indexed in SCOPUS, ISI, EI-Compendex, DBLP
  - Quartile: Q4
110. A Vulnerability Metric for the Design Phase of Object Oriented Software, Khan R.A., et. al., (2010), *Communications in Computer and Information Science*, Volume 94, pp. 328-339, Springer.
- Indexed in SCOPUS, ISI, EI-Compendex, DBLP
  - Quartile: Q3
111. Software Security Factors in Design Phase, Khan R.A., et. al., (2009), *Communications in Computer and Information Science*, Volume 94, pp. 339-345, Springer.
- Indexed in SCOPUS, ISI, EI-Compendex, DBLP
  - Quartile: Q3

### **Authored Books**

- **Software Vulnerability: Identification and Minimization**, A. Agrawal & R A Khan, Verlag/Publisher, Scholar Press Deutschland, GERMANY (ISBN: 978-3-639-66143-9)
- **Software Engineering: A Practitioners Approach**, R.A. Khan, A. Agrawal, Narosa Publication, ISBN: 978-81-8487-381-8, [http://www.narosa.com/computer\\_science.asp](http://www.narosa.com/computer_science.asp) (Also published by its Int. Associate, Alpha Science, Oxford UK: [http://www.alphasci.com/books\\_display.asp?title=1-84265-909-0](http://www.alphasci.com/books_display.asp?title=1-84265-909-0) )

### **Edited Books**

- **Limitations and Future Applications of Quantum Cryptography**. Kumar, N., Agrawal, A., Chaurasia, B. K., & Khan, R. A. (2021). IGI Global. <http://doi:10.4018/978-1-7998-6677-0>

## Patents

Status	Inventors	Title and Award/Application no.
<b>National Patents</b>		
<b>Published</b>	Alka, et. al.,	Design and development of A binary subtractor using Vedic Mathematics (Patent Number: 201911008453)
<b>Published</b>	Alka, et. al.,	A Framework to Software Security Usability Trade-off (Patent Number: 1782/DEL/2015)
<b>Published</b>	Alka, et. al.,	Design of an IoT based Alert Network for Rainfall Disaster Management System (Patent Number: 201711028829)
<b>Published</b>	Alka, et. al.,	Security Durability Assessment Framework (Patent Number: 201711032601)
<b>Published</b>	Alka, et. al.,	Flood Avoidance Mechanism for Smart Cities Using Plain Modelling and Cellular Pipelining (Patent Number: 201911010562)
<b>International Patents</b>		
<b>Awarded</b>	Alka, et. al.,	A Security Management System for Digital Healthcare Information Management Field and Its Method Thereof (Australian Patent Number: 2021100559)

## Research Supervision

	Completed	Ongoing
<b>PG/M.Phil</b>	More than 25	More than 10
<b>Ph.D</b>	5	03

## Honors, Recognition and Awards

- ✚ Received UGC- Dr. Kothari Post-Doctoral Fellowship in the year 2012.
- ✚ Received National Scholarship from July 1992-June 1994.

## Seminar/Conference/Symposia /Workshops Organised

- Convener **“Two-week Training Course in Cyber Security”** organized by DIT, BBA University, Lucknow (1st Feb- 15th Feb 2018)
- Co-Convener **“National Conference on Information Security Challenges”** organized by Department of IT, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, 24th February 2016.
- Convener **“National seminar on Inclusive Growth of Minority Women through ICT”** at Khwaja Moinuddin Chishti Urdu, Arabi-Farsi University, Lucknow during 13-14 Feb 2015.

## Countries Visited

## Invited Lectures/Talks/Chair/Co-Chair in Seminar/Conference/Symposia /Workshops

- ✚ Delivered an **Invited lecture** on “Challenges in Digital Forensic in Sync with Software Project Management” at Sri Ramswaroop Memorial University, Lucknow.

- ✦ Delivered an **Invited lecture** on “Trademark: A component of IPR” at Faculty Development Programme IPR, Entrepreneurship and Innovation, organized by IET, Lucknow.
- ✦ Delivered an **Invited lecture** on Ransomware: A new security threat, International Seminar on Modern Trends in Engineering and Sciences”, Organized by Dept. of ECE, Physics & EE under the Aegis of HRDC, Integral University, Lucknow, 03 Aug 2017.
- ✦ Delivered an **Invited talk** on “Online Security and We” at Khwaja Moinuddin Chishti Urdu, Arabi- Farsi University, Lucknow in the year April 2016.
- ✦ Delivered an **Invited Talk** on “Compulsion to Accept the Unacceptable: Securo-Phobia”, National Conference on Information Security Challenges, Organized by Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, U.P. 28 March 2014.
- ✦ **Chaired a Technical Session** in National Conference on Information Security Challenges, Organized by Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow, U. P. 28 March 2014.
- ✦ Delivered an **Invited Talk** on “Software Security” in the workshop organized by Asia Pacific Institute of Information Technology, 18-19 February 2014.
- ✦ **Invitee lecturer** at Sachivalaya Prashikshan and Prabhandh Sansthan, Uttar Pradesh, Bhapu Bhavan, Lucknow during the year 2005- 2006.

### Additional Information (If Any)

#### ADMINISTRATIVE DUTIES/ASSIGNMENTS

- ✦ **Assistant Director**, University Institute of Engineering and Technology, Babasaheb Bhimrao Ambedkar University, Lucknow.
- ✦ **Assistant Co-Ordinator**, Online and Offline Entrance Test (2019-20), Babasaheb Bhimrao Ambedkar University, Lucknow.
- ✦ **Assistant Co-Ordinator**, Online Entrance Test (2018-19) Babasaheb Bhimrao Ambedkar University, Lucknow.
- ✦ **Warden (Maintenance)**, Chitralekha Girls Hostel, Babasaheb Bhimrao Ambedkar University, Lucknow since June 2016 to June 2019.
- ✦ **Social Media Champion**, Babasaheb Bhimrao Ambedkar University, Lucknow since July 2019 till date.

#### PAPER PRESENTED/ CONFERENCE ATTENDED

- ✦ Presented Paper Entitled “A Vulnerability Metric for the Design Phase of Object-Oriented Software”, **International Conference on Contemporary Computing (IC3 2010)** Sponsored by **Springer-Verlag Berlin Heidelberg**, Ghaziabad, U.P., **2010**.
- ✦ Presented Paper Entitled “Gaussian Mixture Model: A Modeling Technique for Speaker Recognition and its Component”, **4th International Conference on Advanced Computing and Communication Technologies for High Performance Applications**, FISAT, Angamaly, Kerla, 19-21 June 2014.
- ✦ Presented Paper Entitled “Role of Internet in Education: Benefits and Drawbacks Perspective”, **National Conference on Role of Media in Promoting Right to Education, Lucknow**, U.P., 11-12 March 2014.

- ✦ Presented Paper Entitled “Information Technology and Women Empowerment”, **National Conference on Women Empowerment Towards Gender Equality, Lucknow, U.P.**, 5-7 March 2014.
- ✦ Presented Paper Entitled “Specific Challenges in Big Data Security” in **National Seminar on Emerging Trends and Advancements in Cyber Security** organized by Department of Computer Application, Integral University, Lucknow, 4th April 2016.
- ✦ Attended two days workshop on **Choice Based Credit System & Outcome Based Learning** during 30th -31st March 2016.
- ✦ Attended one-week workshop on “**Ethical Hacking and Information Security**” organized by Department of IT, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow during 6th -12th August 2015.
- ✦ Attended Seminar on **Cyber Law: Policy Issues and Emerging Trends (2010)**, organized by Dr. Ram Manohar Lohiya National Law University, Lucknow.

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