Curriculum Vitae

Dr. Ghanshyam S. Bopche is an Assistant Professor in the Department of Computer Applications at the National Institute of Technology Tiruchirappalli (NITT), India. He received his Ph.D. from Institute for Development and Research in Banking Technology (IDRBT) and University of Hyderabad (UoH), India in the year 2017. His main research interest is in the general areas of Cyber security with an emphasis on network hardening to increase the network robustness against known and unknown (zero-day) attacks. In addition, he is greatly interested in Computer Network, Digital Forensic, Blockchain Technology, Machine Learning, and Technologies for Cyber Defense. He was a visiting research scholar to Center for Unified Biometrics and Sensors (CUBS), State University of New York (SUNY) at Buffalo, NY, USA (2015).

1. Name: Dr. Ghanshyam S. Bopche

2. Designation: Assistant Professor

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5. Email (Primary): bopche(at)nitt(dot)edu   Email (Secondary):
   ghanshyambopche1986(at)gmail(dot)com

6. Field(s) of Specialization: Cyber Security, Digital Forensic, and Computer Networks

7. Employment Profile

Job Title	Employer	From	To
Assistant Professor	National Institute of Technology Tiruchirappalli, India	June 2020	To Date
Assistant Professor	SRM University, AP, India	January	May 2020

		2020	
Assistant Professor	Madanapalle Institute of Technology & Science, Madanapalle, Andhra Pradesh, India	July 2017	Dec. 2019

8. Academic Qualifications (From Highest Degree to High School):

Examination	Board / University	Year	Division/ Grade	Subjects
Ph.D.	IDRBT (An associate institute of University of Hyderabad), Hyderabad, India	2017	-	Secure Computing, Advanced Computer Networks, Operating System, Principles of Programming Languages, Data Structure, and Algorithms.
M.C.A.	RTM Nagpur University, G. H. Raisoni Institute of Information Technology (GHRIIT), Nagpur, Maharashtra, India	2010	First	Principles of Programming Languages, Software Engineering Principles, Operating System Fundamentals, Computer Networks, DBMS, Digital Logic, and Computer Architecture.
B.Sc. (Electronics)	RTM Nagpur University, D. B. Science College, Gondia, Maharashtra, India	2007	First	Electronics, Physics, and Mathematics
HSSC	Pune Board, D. B. Science College, Gondia, Maharashtra, India	2004	First	Science (Physics, Chemistry, Mathematics, and Biology)
SSC	Pune Board, Adarsh Vidyalaya Gondmohadi, Gondia, Maharashtra, India	2002	First	Languages, Science, Mathematics, and Social Science

9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
Member	Ph.D. Admission July 2021 and July 2022 Committee	15-07-2021	To Date
Member	NIMSET 2021 Counselling Committee	03-09-2021	03-10-2021
Co-Coordinator	M.Sc. Computer Science Syllabus	10/08/2021	To Date

	Revision Committee		
Member	Horticulture Advisory Committee (HAC)	08/12/2020	To Date
Member	National Supercomputing Mission (NSM)	01/01/2021	To Date
Member	Online Degree Subcommittee	09/08/2021	To Date
Member	Deployment of Honeypot Devices for Cyber Threat Intelligence Generation for NCCC	25/08/2021	To Date

10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To

11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2019	Best paper award for paper titled "Inter-Path Diversity Metrics for Increasing Networks Robustness Against Zero-Day Attacks"	Symposium Committee – 7th International Symposium on Security in Computing and Communications (SSCC'19)
2018	Best paper award for paper titled "A Proximity-Based Measure for Quantifying the Risk of Vulnerabilities"	Symposium Committee – 6th International Symposium on Security in Computing and Communications (SSCC'18)

12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
2012	Junior Research Fellowship (JRF)	Institute for Research and Development in Banking Technology (IDRBT), Hyderabad, India	January 2012	December 2013
2014	Senior Research fellowship (SRF)	Institute for Research and Development in Banking Technology (IDRBT), Hyderabad, India	January 2014	December 2016

13. Details of Academic Work
    (i) Curriculum Development:
    - Co-Coordinator of M.Sc. Computer Science Syllabus Revision Committee.
    - Revised syllabi for subjects such as Networking Technologies, Cyber Security, Computer Architecture and Organization, etc.

    (ii) Courses taught at Postgraduate and Undergraduate levels:
    - **Theory Courses**: Software Engineering, Object Oriented Software Engineering, Green Computing, Computer Organization and Architecture, Introduction to Computer Programming
    - **Labs handled**: Information Security, and Operating System

    (iii) Projects guided at Postgraduate level:

Sr. No.	Project Title	Student Name	MCA/ M.Sc./ M.Tech	Year
1	US Consumer Credit Cards Analytics KPI Metrics	Gourav Kumar	MCA	2022
2	Alert System for Samsung Pay KPIs	Rajas Joshi	M.Sc.	2022
3	Identification Of Fraudulent Call using Speech Recognition Technique	Abdullah	M.Sc.	2022
4	Identification Of Hate Content in Twitter	Nitin Chandra	M.Tech	2022
5	Surfserver Datastation	Harsh Bhadoria	MCA	2021
6	IGT-NEXEN - Angular Migration (Migration of Plugins)	Himanshu Shinde	MCA	2021
7	Webex Adaptive Card Renderer	Jayesh Menghani	MCA	2021
8	Automatic Text Completion (AutoComplete)	Rohit Chakraborty	M.Sc.	2021
9	OPD Automation	Kundan Thakre	MCA	2021
10	Automated Car Parking System	Nisha Japale	MCA	2021

    (iv) Other contribution(s):

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed

15. Number of PhDs guided/ongoing

Name of the PhD Scholar	Title of PhD Thesis	Role (Supervisor/ Co-Supervisor)	Year of Award
Mr. Nilin Prabhaker	Generation of Believable Fake Documents for Intellectual Property Protection.	Supervisor	Ongoing

16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

Date (s)	Title of Activity	Level of Event (International/ National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
December 16 - 20, 2019	Paper presentation at 15th International Conference on Information Systems Security (ICISS'2019).	International	Paper presenter	Institute for Development and Research in Banking Technology (IDRBT) Hyderabad, India	IDRBT, Hyderabad
December 16 - 20, 2018	Paper presentation at 14th International Conference on Information Systems Security (ICISS'2018).	International	Paper presenter	Indian Institute of Science (IISc), Bengaluru, India	IISc, Bengaluru, India
September 19 - 22, 2018	Paper presentation at 6th International Symposium on Security in Computing and Communications, (SSCC'2018).	International	Paper presenter	PES Institute of Technology (South Campus), Bangalore, India	Bangalore, India
January 4 - 7, 2017	8th International Conference on Distributed Computing and Networking	International	Participant	Institute for Development and Research in Banking Technology	IDRBT, Hyderabad, India

	(ICDCN'2017).			(IDRBT) Hyderabad, India	
December 17 - 19, 2015	5th International Conference on Fuzzy and Neural Computing (FANCCO'2015).	International	Volunteer and Participant	Institute for Development and Research in Banking Technology (IDRBT) Hyderabad, India	IDRBT, Hyderabad, India
August 10 - 13, 2015	Paper presentation at 4th International Conference on Advances in Computing, Communications, and Informatics (ICACCI - 2015).	International	Paper presenter	SCMS, Aluva, Kochi, India	Kochi, India
August 10 - 13, 2015	Paper presentation at 3rd International Symposium on Security in Computing and Communications (SSCC'15).	International	Paper presenter	SCMS, Aluva, Kochi, India	Kochi, India
July 13 - 17, 2015	Short-term course on "Algebra".	Local	Participant	Institute for Development and Research in Banking Technology (IDRBT) Hyderabad, India	IDRBT, Hyderabad, India
December 16 - 20, 2014	10th International Conference on Information Systems Security (ICISS'2014).	International	Participant	Institute for Development and Research in Banking Technology (IDRBT) Hyderabad, India	IDRBT, Hyderabad, India
September 24 - 27,	Paper presentation at 2nd	International	Paper presenter	GCET, Greater	Delhi, India

2014	International Symposium on Security in Computing and Communications (SSCC'14).			Noida, Delhi, India	
May-June, 2014	Summer workshop on "R programming"	National	Participant	C. R. Rao Advanced Institute of Mathematics, Statistics and Computer Science (AIMSCS)	University of Hyderabad (UoH), Hyderabad, India
November 7 – 10, 2013	Ground Zero Summit (Asia's Foremost Information Security Conference).	International	Participant	Indian Infosec Consortium (IIC)	Hotel Ashok, New Delhi, India
June 07 - 08, 2012	Paper presentation at national conference on cyber security (NCCS-2012).	National	Paper presenter	Department of Computer Engineering, DIAT (DU) in association with Special Interest Group – Information Security (SIG-IS) and Computer Society of India (CSI)	Defense Institute of Advanced Technology (DIAT), Pune, India

17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue

18. Invited Talks delivered

Topic	Date	Inviting Organization

19. Membership of Learned Societies

Type of Membership (Member/ Honorary Member / Life Member)	Organization	Membership No. with date
Member	Institute of Electrical and Electronics Engineers (IEEE)	97732492 (February 2022)
Member	Association of Computing Machinery (ACM)	2959291 (March 2017)

20. Academic Foreign Visits

Country	Duration of Visit	Programme
USA	March 05 to July 02, 2015	Student Exchange Programme - Visiting Research Scholar to Center for Unified Biometrics and Sensors (CUBS), State University of NewYork (SUNY) at Buffalo, USA

21. Publications

(A) Refereed Research Journals:

Author(s)	Title of Paper	Journal	Volume No.	Page numbers	Year	doi	Impact Factor of the Journal (Optional)
Diwakar Tripathi, Alok Kumar Shukla, B. Ramachandra Reddy, Ghanshyam S. Bopche & D. Chandramoh an	Credit Scoring Models Using Ensemble Learning and Classification Approaches: A Comprehensive Survey	Wireless Personal Commun-cations	123	785-812	2022	https://doi.org/10.1007/s11277-021-09158-9	1.67
Ghanshyam S. Bopche, Babu M. Mehtre	Graph similarity metrics for assessing temporal changes in attack surface of dynamic networks	Elsevier – Computers & Security	64	16-43	2017	https://doi.org/10.1016/j.cose.2016.09.010	5.105

(B) Conferences/Workshops/Symposia Proceedings

Author(s)	Title of Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year	doi
Ghanshyam S. Bopche, Gopal N. Rai, B. Ramachandra Reddy, Babu M. Mehtre	Differential Attack Graph-Based Approach for Assessing Change in the Network Attack Surface	15th International Conference on Information Systems Security (ICISS'2019), Lecture Notes in Computer	324 - 344	Information Security	IDRBT Hyderabad , India	2019	https://doi.org/1 36945-3_18

		Science, Springer, Cham, 2019						
Ghanshyam S. Bopche, Gopal N. Rai, D. R. Denslin Brabin, Babu M. Mehtre	A Proximity-Based Measure for Quantifying the Risk of Vulnerabilities	7th International Symposium on Security in Computing and Communications (SSCC'2019), Springer, Singapore	41-59	Security in Computing and Communications	Indian Institute of Information Technology and Management-Kerala (IIITM-K), Trivandrum, Kerala, India	2019	https://doi.org/1 4825-3_4
Ghanshyam S. Bopche, Gopal N. Rai, Babu M. Mehtre, G. R. Gangadharan:	Modeling and Analyzing Multistage Attacks Using Recursive Composition Algebra	14th International Conference on Information Systems Security (ICISS'2018), Lecture Notes in Computer Science, vol 11281. Springer, Cham.	67-87	Information Security	IISc Bengaluru, India	2018	https://doi.org/1 05171-6_4
Ghanshyam S. Bopche, Gopal N. Rai, Babu M. Mehtre	Inter-path Diversity Metrics for Increasing Networks Robustness Against Zero-Day Attacks	6th International Symposium on Security in Computing and Communications (SSCC'2018), Springer, Singapore	53-66	Security in Computing and Communications	PES Institute of Technology (South Campus), Bangalore, India	2018	https://doi.org/1 5826-5_4
M. A. Jabbar, Ghanshyam S. Bopche, Bulusu Lakshmana Deekshatulu, Babu M. Mehtre	Diversity-aware, Cost-effective Network Security Hardening Using Attack Graph	5th International Symposium on Security in Computing and Communications, SSCC'2017, Springer, Singapore.	1-15	Security in Computing and Communications	Manipal Institute of Technology (MIT), Manipal University, Manipal, Karnataka, India	2017	https://doi.org/1 6898-0_1

Ghanshyam S Bopche, Babu M Mehtre	Extending attack graph-based metrics for enterprise network security management	3rd International Conference on Advanced Computing, Networking and Informatics, ICACNI - 2016, Volume 44 of Smart Innovation, Systems and Technologies, Springer, New Delhi.	315 - 325	Smart Innovation, Systems and Technologies	KIIT, Orissa, India	2015	https://doi.org/1 2529-4_33
Ghanshyam S. Bopche, Babu M. Mehtre	Change-Point Detection in Enterprise Attack Surface for Network Hardening	3rd International Conference on Advanced Computing, Networking, and Informatics, ICACNI - 2016, Volume 43 of Smart Innovation, Systems and Technologies, 2016, Springer, New Delhi	475 - 485	Smart Innovation, Systems and Technologies	KIIT, Orissa, India	2015	https://doi.org/1 2538-6_49
Ghanshyam S. Bopche, Babu M. Mehtre	Exploiting curse of diversity for improved network security	4th International Conference on Advances in Computing, Communications, and Informatics, ICACCI - 2015	1975-1981	Advances in Computing, Communications and Informatics	SCMS, Aluva, Kochi, India	2015	10.1109/ICACC
Ghanshyam S. Bopche, Babu M. Mehtre:	Exploiting Domination in Attack Graph for Enterprise Network Hardening	3rd International Symposium on Security in Computing and Communications, SSCC'2015, Volume 536 of Communicatio	342-353	Security in Computing and Communications	SCMS, Aluva, Kochi, India	2015	https://doi.org/1 22915-7_32

		ns in Computer and Information Science 2015.					
Ghanshyam S. Bopche, Babu M. Mehtre	Attack Graph Generation, Visualization and Analysis: Issues and Challenges	2nd International Symposium on Security in Computing and Communications, SSCC'2014, Volume 467 of Communications in Computer and Information Science 2014.	379-390	Security in Computing and Communications	GCET, Greater Noida, Delhi, India	2014	https://doi.org/1 44966-0_37

(C) Books & Monographs

Author(s)	Title of Book/Monograph	Name of Publishers	Year of Publication	ISSN/ISBN Number	doi
Diwakar Tripathi, Alok Kumar Shukla, Ramchandra Reddy, Ghanshyam S Bopche	Multi-layer hybrid credit scoring model based on feature selection, ensemble learning, and ensemble classifier (**Book Chapter**)	Handbook of Research on Emerging Trends and Applications of Machine Learning (IGI Global)	2020	ISBN13: 9781522596431 ISBN10: 1522596437 EISBN13: 9781522596455	10.4018/978-1-5225-9643-1.ch021