Profile Page

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Designation	:	Assistant Professor Grade-i
Department	:	Computer Science & Engg.
Qualification	:	PhD CSE (NIT Jalandhar)
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Research Interests :

Security - Application Security, Cyber Warfare, Vulnerability Analysis and Management, Ransomware attacks - detection and mitigation.
Artificial Intelligence - Adversarial ML, Explainable AI.

Other Profile Links :

Google Scholar Link :

Urvashi Garg Profile Page [Click Here](#)

Personal Web Link :

NITJ Website link [Click Here](#)

Journal Publications :

Year	Journal	Publication
2023	IEEE Transactions on Dependable and Secure Computing	Quantitative evaluation of extensive vulnerability set using cost benefit analysis, Geeta Sikka, Lalit K Awasthi, Bharat Bhargava
2023	New Generation Computing, https://doi.org/10.1007/s00354-022-00201-2	Chinu & Urvashi Bansal, Explainable AI: To Reveal the Logic of Black-Box Models
2023	Computers, Materials & Continua, 2023, 74(2), 2541-2555	Amitoj Bir Singh, Lalit Kumar Awasthi, Urvashi, Chained Dual-Generative Adversarial Network: A Generalized Defense Against Adversarial Attacks
2022	Information Security Journal: A Global Perspective	Lovi Dhamija, Urvashi Garg, An adaptive randomized and secured approach against adversarial attacks

2022	Frontiers in Public Health, 2318	Kumar, D., Bansal, U., Alroobaea, R., Baqasah, A. M., & Hedabou, M. An Artificial Intelligence approach for expurgating Edible & Non-Edible Items
2022	Frontiers in Public Health, 2254	Sonwani, E., Bansal, U., Alroobaea, R. S., Baqasah, A. M., & Hedabou, M. An Artificial Intelligence approach towards food spoilage detection and analysis
2022	Computational and Mathematical Methods in Medicine, 2022, 1-9	Shelatkar, T., Urvashi, D., Shorfuzzaman, M., Alsufyani, A., & Lakshmanna, K. Diagnosis of brain tumor using light weight deep learning model with fine-tuning approach.
2021	Computer Communications	Urvashi, Geeta Sikka, Lalit K. Awasthi, An ensemble approach for optimization of penetration layout in wide area networks
2018	Computers & Security, 77, 349-359	Urvashi Garg, Geeta Sikka, Lalit K Awasthi; Empirical analysis of attack graphs for mitigating critical paths and vulnerabilities
2018	International Journal of Information and Computer Security	Urvashi Garg, Geeta Sikka, Lalit K Awasthi; Empirical risk assessment of attack graphs using time to compromise framework
2015	International Journal of Applied Engineering Research, 4, 4, 21487-21499	Urvashi Garg, Sandeep Bansal; Inter-Dependent Effect Of Vulnerabilities For Generation Of Effective Attack Path Score
2015	International Journal of Applied Engineering Research, 10, 9, 23263-23279	Sarbjit Kaur Manjit Kaur, Urvashi Garg; Advanced Eclat Algorithm for Frequent Itemsets Generation
2015	International Journal of Applied Engineering Research, 10, 11, 28263-28271	Urvashi Garg, Sarabjit Kaur; Fingerprint Matching Algorith musing Advanced Pre-Processing Technique
2014	International Journal of Computer Systems	Manjit Kaur and Urvashi Garg, "ECLAT Algorithm for Frequent Itemsets Generation", 1(3), 82-84.
2014	International Journal of Engineering Research & Technology	Deepika Sharma and Urvashi Garg, "User Authentication By using Advanced Key Stroke Recognition", 3(10), 870-873.
2013	International Journal of Soft Computing and Engineering	Pankaj Chejara, Urvashi Garg and Gurpreet Singh, "Vulnerability Analysis in Attack Graphs Using Conditional Probability", 3 (2), 18-21.

Conference Publications :

Year	Conference	Publication
2022	ACI'22: Workshop on Advances in Computation Intelligence, its Concepts Applications at ISIC 2022, May 17-19, Savannah, United States	Kadukar, A., & Bansal, U. (2022). Modified SIMON approach towards lightweight cryptography scheme for multi data key pair combination.
2021	2021 2nd International Conference on Secure Cyber Computing and Communications (ICSCCC)	Kumar, D., & Bansal, U. "Emotion Sentiment Analysis of Indian Twitter-Data of COVID-19 After Lockdown".
2021	2021 2nd International Conference on Secure Cyber Computing and Communications (ICSCCC)	Ekta, Bansal, U. "A Review on Ransomware Attack"
2020	Springer AISC	Tawqeer Ul Islam, Prof. Lalit Kumar Awasthi and Dr. Urvashi Garg, "Gender and Age Estimation from Gait: A Review", .
2018	2018 First International Conference on Secure Cyber Computing and Communication (ICSCCC)	Zeenia, Jagmeet Singh Aidan, Urvashi Garg; Analyzing Complex Non-Trivial Network using Attack Set Generation by Genetic Algorithm

2018	2018 First International Conference on Secure Cyber Computing and Communication (ICSCCC)	Zeenia, Jagmeet Singh Aidan, Urvashi Garg; Advanced Petya Ransomware and Mitigation Strategies
2013	Proceedings of international conference on advances in computing, Springer	Urvashi Garg, Yogesh Kumar Meena; User authentication using keystroke recognition

Book/Chapter Publications :

Type	Title	Publisher	Authors	ISBN/ISSN No.	Year
Book chapter	Fog computing: Challenges and solution in security and privacy	Springer	Urvashi, L. K. A., & Sikka, G. (2020). Behavior-Based Approach for Fog Data Analytics: An Approach Toward Security and Privacy. Fog Data Analytics for IoT Applications: Next Generation Process Model with State of the Art Technologies, 76, 341.		2020
Chapter	A Systematic Review of Attack Graph Generation and Analysis Techniques; Computer and Cyber Security: Principles, Algorithm, Applications, and Perspectives	Taylor & Francis	Urvashi Garg, Geeta Sikka, Lalit K Awasthi		2018
Chapter	User authentication using keystroke recognition; Proceedings of international conference on advances in computing	Springer	Urvashi Garg, Yogesh Kumar Meena		2013

Research Projects :

Role	Project Type	Title	Funding Agency	From	To	Amount	Status	Co-Investigator
Co-PI	Research and Development	An intelligent network analyzer cum patcher for advanced security hardening	DST	15-03-21	15-06-24	73 Lakhs approx	Accepted for funding	Prof. Lalit K. Awasthi, Prof. Harsh Verma, Dr. Geeta Sikka

Events Organized :

Category	Type	Title	Venue	From	To	Designation

STC	International	Identify the weakest link: An online STC on recent attacking and defensive strategies	Dr B R Ambedkar National Institute of Technology	10-08-20	14-08-20	Coordinator
STC	National	Exploring Potential: STC on 2020 research advances towards generating leading investigator	Dr B R Ambedkar National Institute of Technology	24-08-20	28-08-20	Coordinator
Workshop	National	Design of Experiments	NIT Jalandhar	21-04-22	22-04-22	Co-coordinator
STC	National	The AI Frontier: Balancing Security and Explainability	Online	18-03-23	19-03-23	Coordinator

PhD Supervised :

Scholar Name	Research Topic	Status	Year	Co-Supervisor
Guneet Kaur (JRF)	Security	Pursuing	2022	-
Jyoti (JRF)	Security	Pursuing	2022	Dr. Geeta Sikka
Pratiksha Singh	Water quality assessment	Ongoing	2022	
Kritika	Internal fraud detection and analysis	Ongoing	2022	
Lovi Dua	Adversarial Machine Learning	on going	2020	
Chinu Verma	Explainable Artificial intelligence	on going	2020	
Nisha Gautam	e-learning	Pursuing	2020	

PG Dissertation Guided :

Student Name	Dissertation Title	Status	Year	Co-Supervisor
Shivansh	Security	Ongoing	2022	
Rajnish	Image based fraud detection	Ongoing	2022	
Jhanvi	Traffic rules automation	Ongoing	2022	
Amitoj Bir Singh	Adversarial ML	Completed	2022	Prof. L. K. Awasthi
Abhinav	Hybrid authentication system	Completed	2022	Dr. Geeta Sikka
Tejas	Yolo V5	Completed	2022	
Aniket	Cryptography	Completed	2022	
Ekta	Machine Learning	Completed	2020	
Dilip	Machine Learning	Completed	2020	
Shyam Kumar Mishra	Machine Learning	Completed	2020	

Patents :

Name	Reg./Ref. No.	Date of Award/Filling	Organization	Status
Program for attack graph generation, optimization and prioritization	SW-9615/2017	08-11-2017	Copyright Office India	Granted
User identification using unique typing characteristics in key based systems	SW-12475/2019	30-05-2019	Copyright Office India	Granted
Mathematical Topological Calculator	SW-7661/2014	19-03-2014	Copyright Office India	Granted

Automatic scheduler cum time table Generator	SW-4522/2020	10-09-20	Copyright Office India	Published
Gait based gender and age estimator	SW-9916/2020	15-09-20	Copyright Office India	Published
A novel device for Edible and non edible sanitization using Artificial Intelligence	TEMP/E-1/61668/2020- DEL	21-12-2020	Indian Patent	Filed
Quizzie – A smart quiz making platform	SW-14782/2021	July 2021	Copyright office India	Awarded
Software for simulating MIPS behaviour	SW-14806/2021	August 2021	Copyright office India	Awarded
Advanced Query Engine cum validator for Databases	SW-15161/2022	2022	Copyright office India	Awarded
Advanced query optimizer for proposing optimized solution for query execution	SW-15160/2022	2022	Copyright office India	Awarded
A novel wearable authentication device involving EEG and IRIS pattern analysis, system and method thereof	202211021836	12-04-22	Indian Patent	Filed

Admin. Responsiblities :

Position Held	Organization	From	To
Coordinator (CSI Membership)	Dr B R Ambedkar National Institute of Technology Jalandhar	25-02-20	Till date
Educator	committee constituted for AWS academy curriculum course at Dr B R Ambedkar National Institute of Technology Jalandhar	12-12-19	Till date
PG coordinator (Academics)	NIT Jalandhar	June 2021	till date
Member - Artificial Intelligence Center	NIT Jalandhar	September 2021	till date
Creativity and Web Designing Club (Coordinator)	Student Welfare	21-06-22	till date
Coordinator	Student Grievance Cell	11-05-22	Till date
Coordinator	Virtual Lab	16-09-20	Till date