DR. SHRUTI
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PG Department of Information Technology
GGDSD COLLEGE Chandigarh
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DOB: 11th March 1990

Educational Qualifications	**Ph.D. in Computer Science and Engineering** Chitkara University, Punjab, India (2024) PhD Thesis: *Design of Improved Attribute-Based Encryption Scheme for Fog Computing Environment*, Ph.D. Supervisor: Dr. Shalli Rani. Qualified U.G.C-NET in Computer Science and Applications. Qualified GATE in Computer Science and Information Technology (CS). **M.E. (Computer Science and Engineering)**, PEC University of Technology, Chandigarh, India (2013-2015). **M.E. (Computer Science and Engineering)**, UIET, Panjab University, Chandigarh, India (2009-2013).
Teaching/Research Experience	• 21 December 2015- till date **Assistant Professor** in PG Department of Information Technology, GGDSD College,Chandigarh. Teaching Under-Graduation and Post-graduate level students of BCA, B.Voc (Hardware and Networking), M.Sc IT and PGDCA. • November 2015-December 2015 **Assistant Professor-Guest** in IT Department, UIET, Panjab University,Chandigarh Taught Undergraduate level students of B.E.(IT)
Areas of Interest **Publications** **(Journal/Book Chapters/Book Published)**	• Distributed Computing and Networking **Journal Publications:** *Towards Security of Consumer Electronic Devices: An Advanced Attribute- Based Encryption Approach for Multimodal Fog Computing*, IEEE Transactions on Consumer Electronics, Year 2024. 10.1109/TCE.2024.3409885 *Enhancing privacy and security in IoT-based smart grid system using encryption-based fog computing*, Alexandria Engineering Journal, Volume 102, Pages 66-74, Year 2024. https://doi.org/10.1016/j.aej.2024.05.085 *Secure hierarchical fog computing-based architecture for industry 5.0 using an attribute-based encryption scheme*, Expert Systems with Applications, Volume 235, 121180, Year 2024. https://doi.org/10.1016/j.eswa.2023.121180 *Securing internet of things device data: An ABE approach using fog computing and generative AI*, Expert Systems, Wiley, pp. 13691, Year 2024. https://doi.org/10.1111/exsy.13691 *Attribute-Based Encryption Schemes for Next Generation Wireless IoT Networks: A Comprehensive Survey*, Sensors, Volume 23, Issue 13, Page 5921, Year 2023. https://doi.org/10.3390/s23135921

SDAFA: Secure Data Aggregation in Fog-Assisted Smart Grid Environment, Sustainability (Switzerland), Volume 15, Issue 6, Page 5071, Year 2023. https://doi.org/10.3390/su15065071

Beautification of QR Codes, International Journal of Scientific Research in Computer Science Applications and Management Studies, Vol. 7, Issue 4, July 2018.

Finding an Efficient Network Medium-Wi-Fi or Li-Fi, International Journal of Computer Sciences and Engineering (IJCSE), Vol.6, Issue.5, May 2018.

Light Fidelity-A way of data transmission, International Journal of Advanced Research in Computer Science (IJARCS), Vol. 9, No.2, pp. 428-430, March-April 2018.

A sneak peek into future generation, 7G: A Survey, International Journal of Advanced Research in Computer Science (IJARCS), Vol. 9, No.1, pp. 399-402, January-February 2018.

Quorum-based Mutual Exclusion Algorithms – A Survey, IJARCSSE, Vol 5, Issue 3, March 2015.

Book Chapters:

Toward Smarter Industries: Security Framework Using Attribute-Based Encryption and Systematic Solutions, WSN and IoT: An Integrated Approach for Smart Applications, Taylor & Francis, CRC Press, Pages 355-377, Year 2024. ISBN: 978-1-003-43707-9

Integration of Fog Computing and Wireless Sensor Network in Smart Cities, Emerging Technologies and the Application of WSN and IoT, Taylor & Francis, CRC Press, Year 2024. ISBN: 978-1-003-43820-5

Introduction to Cloud Computing and Fog Computing & Their Comparative Analysis, Principles & Fundamentals of Management & Information Technology, National Press Associates, Page 125, Year 2022. ISBN: 978-93-90863-16-7

Layered Network Architecture-OSI Reference Model, Research Trends in Multidisciplinary Research, Volume 2, AkiNik Publications, New Delhi. ISBN: 978-93-5335-409-1, Year 2019.

Book Published

Computer Hardware and Practical on Networking, Mohindra Publishing House, Chandigarh, Year 2024. ISBN: 978-81-970010-4-8.

Online Article

Towards the support of 5G networks during COVID-19, IEEE Technology Policy and Ethics, Year 2021. https://cmte.ieee.org/futuredirections/tech-policy-ethics/july-2021/towards-the-support-of-5g-during-covid-19/

Seminars/ Conferences/Symposiums (Paper Presented)	• *Internet of Things: The Next Generation Internet*, Proceedings of the Third International Conference on Information Management and Machine Intelligence. Algorithms for Intelligent Systems. Springer, Singapore, Year 2023. https://doi.org/10.1007/978-981-19-2065-3_18
	• *Security Architecture and Its Methodology for Fog Computing*, ECS Transactions, Volume 107, Pages 4549-4562, Year 2022. 10.1149/10701.4549ecst
	• *Mitigating Security Problems in Fog Computing System*, Lecture Notes in Networks and Systems, Volume 419 LNNS, Pages 612-622, Year 2022.
	• *Quorum-based Mutual Exclusion Algorithm for Mobile Ad-Hoc Network (MANET)*, IEEE Xplore, International Conference on Computing, Communication & Automation, Pages 606-610, May 2015.
	• *Reforms to Transform India*, National seminar sponsored by ICSSR held on 27th March 2018.
	• *Analysis of Cloud and Fog Computing* paper presented in seminar Recent Trends in Information Technology organized by GGDSD College, sec 32, Chandigarh on 25th March 2022.
Refresher Courses/Workshops/ Training Programmes/FDP	• *Automation System in Education Sector* workshop sponsored by RUSA organized by GGDSD College, Sector 32, Chandigarh on 18th - 20th Feb 2016.
	• *Hands on Workshop on Cloud Computing* organized by Aa2it, SASIT, Mohali on 5th Nov, 2016.
	• *Academic publishing: Way to Increase the visibility of your research* workshop sponsored by RUSA organized by GGDSD College, Sector 32, Chandigarh on 31st March, 2017.
	• *Indian Research Information Network System (IRINS)* Lecture cum workshop organized by RUSA in GGDSD College, sec 32, Chandigarh on 1st December 2018.
	• *AIML (Artificial Intelligence and Machine Learning)* workshop organized by Sebiz Infotech Pvt. Ltd, Mohali held on 23rd Feb, 2019.
	• *Biological Data Analysis and Data Science* faculty development programme organized by RUSA in GGDSD College, sec 32, Chandigarh from 27th February to 4th March 2020.
	• *Book & Article publishing and Springerlink platform demonstration* organized by Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching, MHRD, Govt. of India in collaboration with SpringerNature at Guru Nanak Dev University, Amritsar on 22nd April, 2020.
	• *Research in the time of pandemic* a seven days e-learning workshop organized Department of English and Cultural

Studies, Panjab University, Chandigarh from 21st to 27th April, 2020.

- Online workshop on *Research Methodology Concepts* organized by Gujranwala Guru Nanak Institute of Management and Technology from 8th to 14th April, 2020.

- *Gamification, Machine Learning and IoT & Security,* online national lecture series organized by PG Department of IT, GGDSD College, sec 32, Chandigarh from 25th to 26th May 2020.

- *EBSCO ebook Academic Collection and EBSCO Mobile App,* online training session organized by GGDSD College, sec 32, Chandigarh on 12th July 2021.

- *Search Strategies to Retrieve Relevant Literature,* webinar under the aegis of DBT Star College Scheme organized by Department of Physics, GGDSD College, sec 32, Chandigarh on 21st September 2021.

- *Understanding a Research Project,* a one-day international workshop organized by IQAC, NEHU Shillong, Meghalaya and Indian Society for Training and Development, Shillong, Meghalaya in collaboration with Department of Philosophy and IQAC, Moran College, Moranhat, Assam and Department of Philosophy, SUV, Tirupati, Andhra Pradesh, India on 2nd March, 2022.

- *Research Log and Research Proposal,* one-day international workshop organized by IQAC, NEHU Shillong, Meghalaya and Indian Society for Training and Development, Shillong, Meghalaya in collaboration with Department of Philosophy and IQAC, Moran College, Moranhat, Assam and Department of Philosophy, SUV, Tirupati, Andhra Pradesh, India on 3rd March, 2022.

- *Predictive Analytics using IBM SPSS Modeler – Advanced course,* a 15-days workshop organized by IBM on December 2022.

- *Design of Thesis/Research report in MS Word,* a two-days symposium organized by Chitkara University, Rajpura on 6th and 7th February 2023.

- *Advance Statistical Data Analysis using SPSS,* one-week workshop organized by IISE, Lucknow and Science Tech Institute, Lucknow from 21st to 27th May 2023.

- *Career Opportunities for Young Professionals in the Clean Energy Sector,* webinar organized by The Climate Project Foundation on 14th December 2023.

- *NEP 2020 Orientation and Sensitization Programme* organized under Malaviya Mission Teacher Training Programme (MM-TTP) of UGC by Panjab University, Chandigarh from 16th to 26th January 2024.

- *Recent Advancements in Deep Learning for Computer Vision Applications,* a two-week faculty development programme organized by Department of Electronics and Communication , CVR College of Engineering, Telangana from 1st to 12th April 2024.

- *Introduction to Power BI* an online workshop organized by Reader Club, GGDSD College, Sector 32, Chandigarh in August 2024.

- *Navigating a Career in Computer Graphics and Vision: Skills, Innovative techniques and Role of AI,* a workshop organized by Chitkara University Research and Innovation Network, Chitkara University, Punjab on 13th November 2024.

Courses

- *Data Science* course by IBM on Coursera in October 2022.

- *Python Programming for Beginners* online short-term course organized by Department of Computer Science and Engineering, NIT, Warangal from 28th March 2022 to 1st April 2023.

- *Artificial Intelligence, Machine Learning and Deep Learning* online short-term course organized by Department of Computer Science and Engineering, NIT, Warangal from 29th May 2023 to 2nd June 2023.

Administrative Experience

- Member of NSS committee, GGDSD College, Chandigarh.
- Member of Mentor-Mentee committee, GGDSD College, Chandigarh.
- Member of Sanatan Dharma Technology Business Incubator (SDTBI) team, GGDSD College, Chandigarh.
- Member of Arogya CiBiod team of GGDSD College, Chandigarh.
- Member of Placement Cell, GGDSD College, Chandigarh.
- Member of Controller of Examination committee, GGDSD College, Chandigarh.
- Successfully conducted training program on "Video Editing via Mobile Phone" as teacher coordinator under Social Entrepreneurship, Swachhta and Rural Engagement Cell in collaboration with MGNCRE, Ministry of Education, Govt. of India.
- Teacher coordinator for IBM and ICT training program.
- Assistant Superintendent for University Exams (Centre-32) in 2024.
- Has been invited as a judge for Inter-School competition at St. Stephen's School, Chandigarh.

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