



# Dr. Nirali Nanavati

## Curriculum Vitae

*"The only thing greater than the power of the mind is the courage of the heart" - John Nash*

### Education

- 2010–2015 **Ph.D.**, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat, India, GPA – 9.6.
- 2006–2008 **Master of Computer Science**, New Jersey Institute of Technology (NJIT), Newark, U.S.A. , GPA – 3.7/4.0.
- 2000–2004 **Bachelor of Computer Engineering**, G.H. Patel College of Engineering and Technology (GCET), V.V.N., India, GPA – 3.4/4.0.

### Ph.D. Thesis

- Title *Investigating Privacy Preserving Approaches for Collaborative Association Rule Mining*
- Supervisor Professor Devesh C. Jinwala

### Experience

#### Vocational

- 2016–Present **Assistant Professor**, SCET, Surat, India.  
Lecturer for subjects like Python Programming, Information and Network Security, Computer Programming and Utilization and Artificial Intelligence at the under-graduate level and Data Mining at the post-graduate level. Part of the Intranet committee, GATE and Aptitude Test committee, Academic committee and Alumni committee at the department. Class teacher for second year computer engineering students. Visiting lecturer at SVNIT, Surat for the subject Data Science for the third year under-graduate students. On the interview panel for GTU for the recruitment of Assistant Professor for the Computer Engineering Department.
- 2009–2016 **Lecturer and Pursued Ph.D.**, SVNIT, Surat, India.  
A lecturer for subjects like Database management Systems, Knowledge based management systems, Artificial Intelligence, Data Sciences. Mentored/guided undergraduate final year projects. Defined the course curriculum for Knowledge Based management Systems and Data Science. Course co-ordinator for various subjects like Database management Systems, Knowledge based management systems and Data Science. Pursued Ph.D. from 2010 to 2015.

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- 2008–2009 **Technical Analyst and Junior DBA**, IBM, San Francisco, United States, Client: Louis Vuitton, San Francisco, United States.  
Role involved technical analysis and resolution of various issues faced in the ATG based website eluxury.com. Was involved in optimizing the database, doing enhancements in Crystal Reports and Oracle db as requested by business. Located on - site, successfully bridged the gap between the off - shore team in France and the above mentioned client.
- 2007 **Programmer Analyst Intern**, HALCYON VIRTUAL, Atlanta, United States.  
Role involved interaction with the client and business analysts for requirement gathering and developing process definitions. Also developed modules using EJB, WebLogic and MS SQL Server and created manual test cases for UAT.
- 2004–2006 **Programmer Analyst**, INFOSYS, Pune, India, Client: CapitalOne, Richmond, United States.  
Technical Developer for a project InBound Decisioning. Role involved analyzing and maintaining various requests of the client. It was a project dealing with the maintenance of various requests for Credit Card users' retention. The programming was mainly done using BEA WebLogic. Developed modules in Java and created extensive documentation for all the initiatives. I was also the Tech Lead for a project Imaging. Role involved analyzing and developing modules for a project Imaging. It dealt with coding the Pro-C modules for the entire Imaging Application. The database repository used was FileNet. My role also involved developing YODA shell scripts and testing them. I also worked as the QA Lead for a project called Online Account Services. Role involved quality assurance tasks for Online Account Services using tools like Test Director, Quick Test Pro and Toad. This project was rated a CMMi Level 5 project. Created extensive documentation for all the initiatives.

## Publications

### Book Chapters

N. R. Nanavati and D. C. Jinwala, "Information-theoretically Secure Privacy Preserving Approaches for Collaborative Association Rule Mining," *Computer and Network Security Essentials*, Springer, chapter 4, pp 65-78, aug 2017.

### Articles in peer reviewed journals

N. R. Nanavati, P. Lalwani, and D. C. Jinwala, "Novel Game Theoretic Privacy Preserving Construction for Rational and Malicious Secret Sharing Models for Collaborative Frequent Itemset Mining," *International Journal of Knowledge Engineering and Data Mining*, Inderscience, vol. 4, no. 3/4, pp 320-346, 2017, indexed at **ACM DL, DBLP and INSPEC**.

N. R. Nanavati and D. C. Jinwala, "A Novel Privacy Preserving Scheme for Collaborative Frequent Itemset Mining Across Vertically Partitioned Data," *Security and Communication Networks*, Wiley Online Library, vol. 8, no. 18, pp 4407-4420, dec 2015, indexed at **Thomson Reuters and DBLP**.

N. R. Nanavati, N. Sen, and D. C. Jinwala, "Analysis and Evaluation of Efficient Privacy Preserving Techniques for Finding Global Cycles in Temporal Association Rules across Distributed Databases," *International Journal of Distributed Systems and Technologies (IJDST)*, IGI Global, vol. 5, no. 3, pp 58-76, oct 2014, indexed at **ACM DL, INSPEC, SCOPUS and DBLP**.

N. R. Nanavati, P. Lalwani, and D. C. Jinwala, "Analysis and Evaluation of Schemes for Secure Sum in Collaborative Frequent Itemset Mining across Horizontally Partitioned Data," *Journal of Engineering*, **Hindawi Publishing Corporation**, Article ID 470416, vol. 2014, no. November, p. 10, nov 2014, indexed at **INSPEC**.

#### Publications in International Conference Proceedings

J. Vanasiwala and N. R. Nanavati, "Multiple Sensitive Attributes Based Privacy Preserving Data Publishing," in *International Conference on Computing Methodologies and Communication (ICCMC)*, **IEEE, Erode, India**, feb 2018, indexed at **IEEE Xplore**.

A. Agarwal and N. R. Nanavati, "Association rule mining using hybrid GA-PSO for multi-objective optimisation," in *International Conference on Computational Intelligence and Computing Research (ICCIC)*, **IEEE, Chennai, India**, dec 2016, pp. 241-247, indexed at **IEEE Xplore**. **(Awarded the Best paper in the corresponding track)**

N. R. Nanavati and D. C. Jinwala, "A Game Theory Based Repeated Rational Secret Sharing Scheme For Privacy Preserving Distributed Data Mining," in *International Conference on Security and Cryptography (SECRYPT)*, **Rome, Italy**, SciTePress, july 2013, pp. 512-517, indexed at **DBLP**.

N. R. Nanavati and D. C. Jinwala, "Privacy preserving approaches for global cycle detections for cyclic association rules in distributed databases," in *International Conference on Security and Cryptography (SECRYPT)*, **Reykjavik, Iceland**, SciTePress, july 2012, pp. 368-371, indexed at **DBLP**.

N. R. Nanavati and D. C. Jinwala, "Privacy preservation for global cyclic associations in distributed databases," in *International Conference on Communication, Computing & Security (ICCCS)*, *Procedia Technology*, Rourkela, Odisha, **Elsevier**, vol. 6, no. 0, pp. 962-969, oct 2012.

#### National Conferences/ Workshops/ Symposiums

N. R. Nanavati and D. C. Jinwala, "A novel privacy preserving game theoretic repeated rational secret sharing scheme for distributed data mining," *Security and Privacy Symposium*, Organized by **IIT Kanpur**, IIIT Delhi and BITS Pilani - Hyderabad Campus at IIT Kanpur, feb 2013.

N. R. Nanavati and D. C. Jinwala, "Investigating Privacy Preserving Approaches For Collaborative Association Rule Mining," *Fourth IDRBT Doctoral Colloquium*, Hyderabad, Institute for Development and Research in Banking Technology (IDRBT) (Established by Reserve bank of India), dec 2014.

N. R. Nanavati and D. C. Jinwala, "Investigating Privacy Preserving Approaches For Collaborative Association Rule Mining," *Inter Research Student Seminar in Computer Science (IRISS)*, Goa, **ACM**, feb 2015.

#### Reviewer for

Conference/s IEEE, ACM

Conference/s International Conference of Information Systems Security (ICISS) (Springer LNCS)

- Conference/s International Conference on Computational Intelligence: Theories, Applications and Future Directions (ICCI)(Springer, CSIR, IEEE)
- Journal/s International Journal for Distributed Systems and Technologies, IGI Global (dblp Indexed)
- Journal/s Security and Communication Networks, Wiley Online Library (SCI Indexed)

### Delivered Expert Talks at

- Mar - 2017 Talk on "Advances in Clustering algorithms for Big Data Analytics" at five day TEQIP II Sponsored STTP on Recent Trends in Big Data Analytics (RTBDA-2017) at SVNIT, Surat
- Feb - 2017 Talk on "Application of Game Theory in Security" at one day State Level Seminar on Game Theory and its Applications at Vadodara Institute of Engineering, Kotambi
- Dec - 2016 Talk on "Map-Reduce Detailed for Big Data" at five day QIP STC on Advances in Big Data Analytics at SVNIT, Surat
- Dec - 2016 Talk on "Frequent Itemset Mining and Clustering algorithms for Big Data Analytics" at five day QIP STC on Advances in Big Data Analytics at SVNIT, Surat
- June - 2016 Talk on "Understanding the Map-Reduce Paradigm" at TEQIP II sponsored five day STTP on Big Data Analytics at SVNIT, Surat
- June - 2016 Talk on "Clustering Algorithms for Big Data Analytics" at TEQIP II sponsored five day STTP on Big Data Analytics at SVNIT, Surat
- Dec - 2015 Talk on "Privacy Preserving Schemes for Distributed Data Mining" at Intelligent Computing - Algorithm and Applications : ICAA15 at MIT, Pune
- June - 2015 Talk on "A Game Theoretic Approach in Privacy Preserving Distributed Data Mining" at TEQIP II sponsored five day STTP on Privacy Preserving Data Mining at SVNIT, Surat
- June - 2015 Talk on "Proposed Information Theoretically Secure Approaches in Privacy Preserving Frequent Itemset Mining" at TEQIP II sponsored five day STTP on Privacy Preserving Data Mining at SVNIT, Surat

### Organized Expert Talks

- Mar - 2018 Talk on "Insights into Learning with a focus on Natural Language Processing " SCET, Surat

### Workshops/Conferences Attended

- Mar - 2018 One Day Workshop on "Introduction to Neural Network and Deep Learning" at SCET, Surat
- Nov - 2017 ISTE approved two week FDP on Innovation and Entrepreneurship - From Design Thinking to Funding at SCET, Surat
- June - 2017 MeitY sponsored one week STTP on Internet of Things and its Applications(IoTA 2017) at SVNIT, Surat
- Feb - 2017 One day State Level Seminar on Game Theory and its Applications at Vadodara Institute of Engineering, Kotambi

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- July - 2015 TEQIP II sponsored one week STTP on Big Data and Advanced Video Compression at SVNIT, Surat
- June - 2015 TEQIP II sponsored five day STTP on Privacy Preserving Data Mining at SVNIT, Surat
- Apr - 2015 TEQIP II sponsored Finishing School on Creating Effective Poster from Project/Paper/Research at SVNIT, Surat
- Mar - 2014 TEQIP II and ISEA Sponsered STTP on Cloud Computing at SVNIT, Surat
- July - 2013 TEQIP II Sponsered Five Day STTP on Wireless Sensor Networks: Secure Data Aggregation and Related Issues at SVNIT, Surat
- May - 2013 TEQIP II Sponsered Five Day STTP on Wireless Sensor Networks: Application and Security Issues (WSNASI 2013) at SVNIT, Surat
- Jan - 2011 ISEAP Sponsered Two Day Seminar on Wireless Sensor Networks: Security Issues and Applications at SVNIT, Surat
- Dec - 2010 ISTE Workshop on Database Management Systems conducted by IIT Mumbai
- Dec - 2010 Sixth International Conference on Information Systems Security (ICISS 2010) at DA-IICT, Gandhinagar
- Feb - 2010 AICTE Sponsered STTP on Data Mining: Techniques and Applications at SVNIT, Surat
- Jan - 2010 AICTE Sponsered STTP on Analysis and Design of Algorithms at SVNIT, Surat
- Dec - 2009 ISTE Workshop on Effective teaching/ learning of Computer Programming conducted by IIT Mumbai

### Member of

- ACM
- Institute of Engineers
- IEEE
- Women in Action

### Additional Interests

- Reading
- Cooking
- Swimming
- Running
- Cycling
- Writing