

Devharsh Trivedi (Ph.D., CISSP)

✉ hi@devharsh.me

in Devharsh Trivedi

☎ 551 260 0605

🌐 www.devharsh.me

Education

- 2019 – 2024 **Ph.D. in Computer Science**, Stevens Institute of Technology, USA
Thesis: *Towards Efficient Security Analytics*, **GPA:** 3.59/4
- 2014 – 2016 **M.Tech. in Computer Science**, Nirma Institute of Technology, India
Thesis: *Performance Evaluation and Security in M.R.I. Machines*, **GPA:** 8.21/10
- 2009 – 2013 **B.E. in Computer Science**, Gandhinagar Institute of Technology, India
Thesis: *Mall Management System*, **GPA:** 7.52/10

Employment

- 2024 – * **Lecturer**, Bowie State University, USA
Co-authored a \$500k grant proposal as Co-Principal Investigator.
Guided 2 undergraduate SFS scholars on Threat Assessment research projects.
Mentored 4 undergraduate SURI scholars on Privacy-Preserving Computations projects.
Conducted course assessment reviews to support ABET and CAE accreditation.
Organized Cyber Day, AI Conference, Cybersecurity Training, and CTF competition.
Instructed Ethical Hacking, Operating Systems, and Programming courses.
- 2020 – 2024 **Graduate Research and Teaching Assistant**, Stevens Institute of Technology, USA
Assessed and designed graduate, undergraduate, and pre-college Cybersecurity courses.
Instructed applied cryptography and various information and network security tools.
- 2024 **Visiting Researcher**, Telecom SudParis, France
Investigated fairness while preserving security and privacy in collaborative machine learning.
Mastered polynomial approximations, hashing, and fully homomorphic encryption.
- 2021 **Guest Lecturer**, Rashtriya Raksha University, India
Instructed an online undergraduate course Digital Systems.
- 2018 – 2019 **Senior Applications Engineer**, Oracle, India
Performed feature updates and bug fixes for JD Edwards ERP in finance localization.
Conducted thorough testing and debugging of C++, SQL, and REST API integration.
- 2015 – 2018 **Senior Software Engineer**, Philips, India
Created a toolchain for test automation to reduce manual test efforts by over 50%.
Deployed a version control tool for sizeable binary data assets of 300 GB per release.
Led teams of 4 in Global Philips Best Practices and PIC Bangalore Hackathon.
Mentored and coached interns on C++ programming skills and MRI physics.
Studied and implemented efficient design patterns, algorithms, and data structures.
- 2013 – 2014 **Technical Account Manager**, EClinicalWorks, India
Communicated with end-users of the EMR system to diagnose client-side errors.
Analyzed desktop and iPad client issues to identify and deliver technical solutions.


Publications

Conference Proceedings

- 1 D. Trivedi, N. Kaaniche, A. Boudguiga, and N. Triandopoulos, “Chiku: Efficient probabilistic polynomial approximations library,” in *Proceedings of the 21st International Conference on Security and Cryptography (SECRYPT 2024)*, SCITEPRESS, Jul. 2024, pp. 634–641.

- 2 D. Trivedi, "Brief announcement: Efficient probabilistic approximations for sign and compare," in *International Symposium on Stabilizing, Safety, and Security of Distributed Systems*, Springer, 2023, pp. 289–296.
- 3 D. Trivedi, A. Boudguiga, and N. Triandopoulos, "Sigml: Supervised log anomaly with fully homomorphic encryption," in *International Symposium on Cyber Security, Cryptology, and Machine Learning*, Springer, 2023, pp. 372–388.
- 4 D. Trivedi, V. Gopalakrishnan, and D. Dholariya, "Medisearch: Advanced medical web search engine," in *2023 IEEE 13th Annual Computing and Communication Workshop and Conference (CCWC)*, IEEE, Apr. 2023, pp. 0534–0540.
- 5 D. Trivedi and N. Triandopoulos, "Vaultbox: Enhancing the security and effectiveness of security analytics," in *International Conference on Science of Cyber Security*, Springer, Nov. 2023, pp. 401–422.
- 6 D. Trivedi and V. Gopalakrishnan, "Medicrawl-a web search engine for diseases," in *2021 IEEE 11th Annual Computing and Communication Workshop and Conference (CCWC)*, IEEE, 2021, pp. 0148–0157.

Journal Articles

- 1 D. Trivedi, A. Boudguiga, N. Kaaniche, and N. Triandopoulos, "Splitml: A unified privacy-preserving architecture for federated split-learning in heterogeneous environments," *Electronics*, vol. 15, no. 2, 2026, ISSN: 2079-9292.  DOI: 10.3390/electronics15020267.
- 2 D. Trivedi, C. Malcolm, J. Harrell, H. Omisakin, and P. Addison, "Peta: A privacy-enhanced framework for secure and auditable tax analysis," *Journal of Cybersecurity, Digital Forensics and Jurisprudence*, vol. 1, pp. 81–94, 2025.
- 3 D. Trivedi, "The Future of Cryptography: Performing Computations on Encrypted Data," *ISACA Journal*, vol. 1, no. 2023, Feb. 2023.  URL: <https://www.isaca.org/resources/isaca-journal/issues/2023/volume-1/the-future-of-cryptography>.
- 4 D. Trivedi, A. Boudguiga, N. Kaaniche, and N. Triandopoulos, "Sigml++: Supervised log anomaly with probabilistic polynomial approximation," *Cryptography*, vol. 7, no. 4, p. 52, 2023.
- 5 D. Trivedi, "Agile methodologies," *International Journal of Computer Science & Communication (IJCSC)*, vol. 12, no. 2, pp. 91–100, Dec. 2021.
- 6 D. Trivedi, "Evaluating classification algorithms on a multi-class single feature problem," *International Journal of Engineering Development and Research (IJEDR)*, vol. 9, no. 2, pp. 219–227, Jun. 2021.  URL: https://www.ijedr.org/viewfulltext.php?&p_id=IJEDR2102036.
- 7 D. Trivedi, "R PROFILING: STRATEGIES FOR PERFORMANCE IMPROVEMENTS IN R APPLICATION," *International Journal of Advanced Research in Computer Science (IJARCS)*, vol. 8, no. 7, pp. 520–522, Aug. 2017.  DOI: 10.26483/ijarcs.v8i7.4348.
- 8 D. Trivedi, "Performance Evaluation of any Application with C# and R," *International Research Journal of Engineering and Technology (IRJET)*, vol. 3, no. 3, pp. 892–894, Mar. 2016.
- 9 D. Trivedi, "Advance WLAN Technologies: A Review," *International Journal of Trend in Research and Development (IJTRD)*, vol. 2, no. 5, Oct. 2015.  URL: <http://www.ijtrd.com/ViewFullText.aspx?Id=148>.
- 10 D. Trivedi, "Mobile forensics tools," 2015.  URL: <https://dx.doi.org/10.13140/RG.2.2.14945.63842>.
- 11 D. Trivedi, "Near Field Communication: Overview and Applications," *International Journal of Engineering Development and Research (IJEDR)*, vol. 3, no. 3, pp. 1–12, Sep. 2015.  URL: https://www.ijedr.org/viewfulltext.php?&p_id=IJEDR1503119.
- 12 D. Trivedi, "Robust data security for cloud while using third party auditor," 2015.  URL: <https://dx.doi.org/10.13140/RG.2.2.36191.84644>.

- 13 D. Trivedi and K. Trivedi, "A comprehensive study of genetic algorithms," 2015. [🔗 URL: https://dx.doi.org/10.13140/RG.2.2.13267.91683.](https://dx.doi.org/10.13140/RG.2.2.13267.91683)
- 14 D. Trivedi and S. Patel, "Mall management system," 2013. [🔗 URL: https://dx.doi.org/10.13140/RG.2.2.35772.41601.](https://dx.doi.org/10.13140/RG.2.2.35772.41601)

Books

- 1 D. Trivedi, *CyberQuest Summer Camp 2026 Curriculum Book*. Zenodo, Jun. 2026. [🔗 DOI: 10.5281/zenodo.20635564.](https://doi.org/10.5281/zenodo.20635564)
- 2 D. Trivedi, *Cybersecurity: Theory, Practice, and Ethics*. Zenodo, Jun. 2026. [🔗 DOI: 10.5281/zenodo.20581926.](https://doi.org/10.5281/zenodo.20581926)
- 3 D. Trivedi, *Generative AI with Amazon Bedrock*. Zenodo, Jun. 2026. [🔗 DOI: 10.5281/zenodo.20652883.](https://doi.org/10.5281/zenodo.20652883)

Theses

- 1 D. Trivedi, "Towards efficient security analytics," Ph.D. dissertation, Stevens Institute of Technology, Hoboken, NJ, USA, May 2024. [🔗 URL: https://www.researchgate.net/publication/382390576_Towards_Efficient_Security_Analytics.](https://www.researchgate.net/publication/382390576_Towards_Efficient_Security_Analytics)
- 2 D. Trivedi, "Performance evaluation and security of image reconstruction application in magnetic resonance imaging machines," M.S. thesis, Nirma Institute of Technology, Ahmedabad, India, May 2016. [🔗 URL: https://www.researchgate.net/publication/375059284_Performance_Evaluation_and_Security_of_Image_Reconstruction_Application_in_Magnetic_Resonance_Imaging_Machines.](https://www.researchgate.net/publication/375059284_Performance_Evaluation_and_Security_of_Image_Reconstruction_Application_in_Magnetic_Resonance_Imaging_Machines)
- 3 D. Trivedi and S. Patel, "Mall management system," Bachelor's Thesis, Gandhinagar Institute of Technology, Gandhinagar, India, May 2013. [🔗 URL: https://www.researchgate.net/publication/375059394_Mall_Management_System.](https://www.researchgate.net/publication/375059394_Mall_Management_System)

Software

- 1 D. Trivedi, *Chiku: Polynomial function approximation library in python*, version 1.0, 2023. [🔗 URL: https://github.com/devharsh/chiku.](https://github.com/devharsh/chiku)
- 2 D. Trivedi, *Vaultbox: Header-only C++ library for secure storage and transmission*, 2023. [🔗 URL: https://github.com/devharsh/VaultBox.](https://github.com/devharsh/VaultBox)

Posters

- 1 S. Despeignes, T. Huggins, and D. Trivedi, *Local government supply chain cybersecurity: Addressing the implementation gap in resource-limited municipalities*, 2025. [🔗 DOI: 10.5555/3801163.3801176.](https://doi.org/10.5555/3801163.3801176)
- 2 C. Malcolm, H. Omisakin, J. Harrell, P. Addison, and D. Trivedi, *Privacy preserving tax analysis*, 2025. [🔗 URL: https://www.researchgate.net/publication/394894058_Privacy_Preserving_Tax_Analysis.](https://www.researchgate.net/publication/394894058_Privacy_Preserving_Tax_Analysis)
- 3 D. Trivedi, N. Kaaniche, A. Boudguiga, and N. Triandopoulos, *Chiku: Efficient probabilistic polynomial approximations library*, 2024. [🔗 URL: https://www.researchgate.net/publication/382074422_chiku_Efficient_Probabilistic_Polynomial_Approximations_Library.](https://www.researchgate.net/publication/382074422_chiku_Efficient_Probabilistic_Polynomial_Approximations_Library)

Skills

Languages	📌 Strong reading, writing, and speaking competencies in English, Hindi, and Gujarati
Coding	📌 C, C++, C#, Java, PHP, Perl, Python, Bash, R
Scripting	📌 SQL, XML, XSL, HTML, CSS, JS, ASP.NET, LaTeX

Skills (continued)

DBMS	■	MS SQL Server, MongoDB, SQLite, MySQL, MariaDB
Web Servers	■	Apache Web Server, Tomcat Web Server, IIS Web Server
OS	■	Ubuntu, Fedora, Kali Linux, FreeBSD, NetBSD, macOS, Windows, Raspbian
VCS	■	ClearCase, Git, Perforce
CI/CD	■	Jenkins, TFS, GitLab, Travis
Analysis	■	Synopsys, TICS, Bullseye Coverage, Wireshark, OWASP Top 10
Certificates	■	(ISC) ² CC and CISSP, Microsoft Azure AZ-900 and AI-900, IBM Watson Analytics
LMS	■	Canvas, BlackBoard Ultra, GitHub Classrooms, Moodle
Interpersonal	■	Excellent communication, teamwork, critical thinking, and problem-solving
Miscellaneous	■	Academic research, teaching, training, consultation, and publishing

Achievements

Awards, Grants and Funding

- 2026 ■ **Journal Grant** of CHF 2,400 from the Electronics (MDPI) journal.
- 2024 ■ **Graduate Conference Funding** of USD 951.61 from Stevens Institute of Technology, USA, for the 5th International Conference on Science of Cyber Security (SciSec 2023, Australia).
- 2023 ■ **Conference Grant** of USD 350 from the 25th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2023, USA).
■ **Journal Grant** of CHF 1,600 from the Cryptography (MDPI) journal.
- 2019 ■ **Provost's Ph.D. Fellowship** of USD 37,958 from the Stevens Institute of Technology, USA.
- 2022 ■ **First Prize Award** of USD 700 at Red Team CTF 2022 organized by Trend Micro and ISACA NYM hosted at the VR World NYC, USA.

Mentored Student Success





- 2026 ■ **2nd place in CTF**, Sage Despeignes, Haley Reyes, Rameses Peyton, Jalen Theodore; April 11, 2026, Regent University, Virginia Beach, VA
- 2025 ■ **Honorary Mention for Student Poster**, Local Government Supply Chain Cybersecurity: Addressing the Implementation Gap in Resource-Limited Municipalities; Sage Despeignes, Titorian Huggins, Devharsh Trivedi; 41st CCSC Eastern Regional Conference, October 24-25, 2025, Arcadia University, Glenside, PA
■ **3rd place in CTF**, Fletcher Baccus Jr., Sage Despeignes, Haley Reyes, Darryl Lomax Jr., Rameses Peyton, Jalen Theodore; 41st CCSC Eastern Regional Conference, October 24-25, 2025, Arcadia University, Glenside, PA
- 2024 ■ **2nd place in Temple University's Social Engineering Challenge**, Calvinaleb Amiolemen; BSides Philadelphia 2024, December 6, 2024, Live! Casino & Hotel, Philadelphia, PA
■ **2nd place in CTF**, Calvinaleb Amiolemen, Tobiloba Ayodeji, Haley Reyes, Sage Despeignes, Tarron Montgomery, Kevin Eliasmejia; 40th CCSC Eastern Regional Conference, October 18-19, 2024, Mount St. Mary's University, Emmitsburg, MD

Services



Reviewer

- 2025 – * ■ OHG JCDFJ (Journal of Cybersecurity, Digital Forensics and Jurisprudence)
■ MDPI (Electronics, Mathematics, Sensors)






Services (continued)

- 2024  Wiley ETT (Transactions on Emerging Telecommunications Technologies)
- 2023 – 2024  IEEE LATINCOM (Latin-American Conference on Communications)
- 2022  CSCML (Cyber Security, Cryptology and Machine Learning)
- 2020  ACM CCSW (Cloud Computing Security Workshop)



Expert Guest Lectures

- 2026  Intrusion Detection & Prevention Systems (IDPS), online, Regent University
-  Advanced Database Security, online, Rashtriya Raksha University









Talks

- 2025  Privacy-Preserving Log Anomaly Detection, George Washington University
-  Privacy-Preserving Log Anomaly Detection, Texas A&M University Corpus Christi
- 2021  Quantum Cryptography, online, null Ahmedabad Chapter
-  A practical approach to attacking CIA triad, online, Rashtriya Raksha University
-  Colloquy with Devharsh, online, Rashtriya Raksha University






Organizations

- 2024 – *  Member, International Information System Security Certification Consortium ((ISC)²)
- 2020 – *  Senior Member, Institute of Electrical and Electronics Engineers (IEEE)

Volunteer

- 2022 – 2023  Doctoral Student Advisory Board, Stevens Institute of Technology, USA
- 2020 – 2023  Chief Information Officer, Positive Planet, USA
- 2022  C++Now, 1-6 May 2022, volunteered in Aspen, USA
- 2020 – 2021  Data Scientist, ISACA New York Metropolitan Chapter, USA
- 2021  CppCon, 24-29 October 2021, volunteered in Aurora, USA
-  Mentor, online, InfosecGirls, India
-  North Jersey Section Lead, online, IEEEExtreme, USA
- 2020  CASCON x EVOKE, 10-13 November 2020, volunteered online

References

-  **Dr. Nikos Triandopoulos**, Associate Professor, Brown University, USA, *nikolaos_triandopoulos@brown.edu*.
-  **Dr. Dharati Dholariya**, Assistant Professor, Rashtriya Raksha University, India, *dharati.dholariya@rru.ac.in*.
-  **Dr. Aymen Boudguiga**, Research Engineer, CEA-List, France, *aymen.boudguiga@cea.fr*.
-  **Dr. Nesrine Kaaniche**, Associate Professor, Telecom SudParis, France, *kaaniche.nesrine@telecom-sudparis.eu*.
-  **Dr. Vijay Kowtha**, Adjunct Faculty, Bowie State University, USA, *vkowtha@bowiestate.edu*.