

Nima Karimian, Ph.D.

Assistant Professor
University of South Florida

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Academic Experience

Assistant Professor, University of South Florida	2025–Current
Bellini College of Artificial Intelligence, Cybersecurity and Computing	
Assistant Professor, West Virginia University	2022–2025
Department of Computer Science and Electrical Engineering	
Assistant Professor, San Jose State University	2017–2022
Department of Computer Science and Engineering	

Education

Ph.D. in Computer Engineering, University of Connecticut	2014–2018
M.Sc. in Computer Engineering, University of Connecticut	2014–2016
M.Sc. in Biomedical Engineering, Amirkabir University of Technology	2011–2013
B.Sc. in Electrical Engineering, Babol Noshirvani University of Technology	2007–2011

Honors and Awards

Best Paper Award	IEEE Silicon Valley Cybersecurity Conference (SVCC), 2025
NSF CAREER Award	NSF Faculty Early Career Development Program Award, 2024
World's Top 2% Scientists	World's Top 2% Scientists list, developed by Stanford University and Elsevier 2023-2024
Second Place Award	IJCB LivDet-Face 2024 Competition
Second Place Award	IJCB LivDet –Noncontact 2023 Fingerprint Competition
Faculty Award for Excellence in Scholarship	Charles W. Davidson College of Engineering, SJSU, 2021
Best Reviewer Award	International Joint Conference on Biometrics (IJCB 2021)
Research Award	COVID-19 Extramural Funding Incentive Program Award, 2021
Travel Award	Travel Grant from College of Engineering, 2019
UGA Award	SJSU University Grants Academy (UGA) Award, 2018
	SPIE BIOS, Lasers in Dentistry, Best Paper Award Nomination, 2018
Best Paper Nomination	International Joint Conference on Biometrics (IJCB) IAPR TC4 Award, 2017
IAPR TC4 Award	International Joint Conference on Biometrics Best Paper Award, 2017
Best Paper Award	IEEE International Conference on VLSI Design, Best Paper Award, 2017
Best Paper Award	

Doctoral Dissertation

Award	University of Connecticut, Doctoral Dissertation Award, 2016
Travel Award	University of Connecticut, Doctoral Student Travel Award, 2016
Summer Fellowship Award	University of Connecticut, Doctoral Summer Fellowship Award, 2016
Best Poster Award	Winner of Best Poster Award at Florida Institute of Cybersecurity, 2015

Research Interests

- Trustworthy AI and LLM
- AI in Healthcare
- Computer Vision
- Biometrics
- ML Security
- Cybersecurity

Sponsored Research Projects

External Grant (\$1,7M)

1. **NSF CISE REU**, Award number: 2603113; total amount: **\$10k**; my portion: **\$10K**, duration: Summer 2026;
2. **NSF CISE: CAREER**: Advancing Fairness in Biometric Systems: Towards Security and Privacy Enhancement, Award number: 2603113; total amount: **\$632K**; my portion: **\$632k**; duration: Oct. 2024- Sep. 2029.
3. NSF CITEr: A Multi-Layered Framework for Robust Deepfake Audio Detection and Tamper Analysis”, Collaboration with Clarkson University funded by the NSF CITEr, total amount: **\$50**; my portion: **\$20k**: August 2025- August 2026
4. Pangiam Corp.: Inspection of X-ray Cargo Containers Using Machine Learning Approach”, funded by the Pangiam, total amount: \$218,000, my portion: **\$76k**. Dec 2023- May 2026
5. **NSF CCF Program**: “Collaborative Research: SHF: Small: Towards Robust Deep Learning Computing on GPUs”, Collaboration with UC Merced and University of Colorado Boulder; Award number: 2114519; total amount: **\$502K**; my portion: **\$160k**; duration: Oct. 2021- Sep. 2024.
6. NSF CITEr: Improving Performance of Facial Recognition via Multi-Model Algorithmic Ensemble”, Collaboration with West Virginia University funded by the NSF CITEr, total amount: **\$50**; my portion: **\$20k**: August 2024- August 2025
7. **NSF CISE Program**: “CRII: SaTC: Physical Side-Channel Attacks in Biometric System”, sole PI; Award number: 2104520; amount: **\$174,428.00**; duration: July 2021- Jun 2023.
8. Texas Instruments Corporation: “TI-RSLK boards and teaching assistants”, sole PI; total amount: **\$50k**; duration Jan 2019- Dec 2020.

9. CA Fire Department Officer; “An Intelligent Monitoring System for CA Firefighters,” *total amount: \$50k; duration: Nov. 2018- Dec. 2019.*

Internal Grant (\$22.5K)

1. RSCA Seed Grant Program proposal, Research Foundation, **\$10,000.00**, 2021
2. Professional Development Funds, Research Foundation, **\$500.00**, 2021
3. SJSU CMPE Faculty Research and Professional Development, **\$2,000.00**, 2021
4. Professional Development Funds, SJSU College of Engineering, **\$1,500.00**, 2020
5. Professional Development Funds, Research Foundation, **\$1000.00**, 2020
6. Grants Academy (UGA) Program, Research Foundation, **\$500.00**, 2020
7. SJSU CMPE Faculty Research and Professional Development, **\$2,500.00**, 2020
8. Professional Development Funds, SJSU College of Engineering, **\$2,000.00**, 2019
9. SJSU CMPE Faculty Research and Professional Development, **\$2,500.00**, 2019

10.

Teaching Experience

University of South Florida, Bellini College of Artificial Intelligence, Cybersecurity and Computing

Instructor

Graduate/Undergraduate Course: Generative AI (CIS 6930 / CIS 4930)

F’25, F’26

Developing hands-on assignment, lecture slides-based GAN, VAE, Diffusion, LLM

Undergraduate Course: Computer Logic & Design (CDA 3201)

S’26

Taught Boolean algebra, algebraic representation of switching functions, Karnaugh maps and Quine-McCluskey, combinational and sequential logic circuit,

West Virginia University, LCSEE Department

Instructor

Graduate Course: *Advanced Data Mining, Application of Neural Networks*

F’23, F’24, S’25

- Developing hands-on assignment, tutoring OpenCV, preparing lecture slides, delivering lectures, designing homework assignments and questions for exam

(Morgantown, WV)

Undergraduate Course: *Microprocessor Design*

F’22, S’23, S’24

- Created course content and materials, taught assembly language, C programming, general purpose IO, Serial Communication, Analog to Digital converter, Interrupts

(Morgantown, WV)

San Jose State University, CMPE Department

Graduate Course: *Data Mining*

- Prepared course materials including all python hands-on assignments and course projects
- Taught data representation and preprocessing, proximity, finding nearest neighbors, dimensionality reduction, exploratory analysis, association analysis and sequential patterns, supervised learning: model selection and evaluation, overfitting, clustering, advanced topics

Instructor
S'21
(San Jose, CA)

Graduate Course: *Advanced Computer Design*

- Prepared course materials including all hands-on assignments and course projects
- Taught a core computer engineering course to 40 graduate students
- Taught fundamentals of microprocessors, memory circuit, system bus, and system peripherals. Students deliver final project based on a read and program disturb behavior of Flash memory using STM32F board.

S'20, S'21
(San Jose, CA)

Graduate/undergraduate Course: *Biometric Fundamentals*

- Proposed new course and prepared materials including all hands-on assignments
- Taught fundamentals of biometrics, face recognition, fingerprint recognition, Iris biometric, biometric system security, security of processing modules, sensor attack, template protection, Fuzzy commitment, Fuzzy extractors

S'20
(San Jose, CA)

Undergraduate Course: *Microprocessor Design*

F'18, S'19, F'19,
F'21

Received grant from Texas instrument that supports TA and purchase TI-RSLK

(San Jose, CA)

- Used TI Robotics Systems Learning Kit (TI-RSLK) with MSP432 Launchpad to provide students with a deeper understanding of how electronic system designs work.

Undergraduate Course: *Digital Design*

- Taught an undergraduate course on the fundamentals of digital design and Verilog to 50 seniors

F'20
(San Jose, CA)

Graduate/undergraduate Course: *CMPE 295A/B: Master Project*

- Mentoring and advising more than 50 graduate students to deliver their master project

S'19, 20, F'19, 20
(San Jose, CA)

Graduate/undergraduate Course: *CMPE 195A/B: Senior Design*

- Mentoring and advising more than 50 undergraduate students to deliver their senior design project

S'19, 20, F'19, 20

Publication List

Google Scholar profile: [Link](#)

Patent

- Physiological Signal Extraction from Facial Video, United States Patent and Trademark Office, Application number: 19/182758, Pending. Role: Inventor.

Book Chapter Articles

1. F. Tehranipoor, **N. Karimian**, P. Wortman, A. Haque, J. Fahrney, and J. Chandy, "Exploring Methods of Authentication for the Internet of Things," *In the Internet of Things*, pp. 71-90. Chapman and Hall/CRC, 2017.

Journal Articles

1. N. Najafzadeh, A. Devkota, R. Chataut, **N. Karimian**, J. Dawson, P. Gyawali, "CON-MTKD: A Contrastive Framework for Multi-Teacher Knowledge Distillation" in *IEEE Access* 2026, under review.
2. P. Banerjee, A. K. Srivastava, D. A. Adjero, R. Reddy and **N. Karimian**, "Understanding ChatGPT: Impact Analysis and Path Forward for Teaching Computer Science and Engineering," in *IEEE Access*, vol. 13, pp. 11049-11069, 2025,
3. **N. Karimian**, G. Saldamli, Y. Park and V. Lui, "Never Lose Your ECG: A Novel Key Generation and Authentication Scheme for Implantable Medical Devices," in *IEEE Access*, vol. 11, pp. 81815-81827, 2023
4. S. Shomaji, Z. Guo, F. Ganji, **N. Karimian**, D. Woodard, D. Forte, "BLOcKeR: A Biometric Locking Paradigm for IoT and the Connected Person," in *Journal of Hardware and Systems Security (HaSS)*, 2021.
5. R. Corderio, **N. Karimian**, and Y. Park, "Hyperglycemia Identification using ECG in Deep Learning Era," in *Sensor*, vol. 21, no. 18, pp. 1-16, 2021.
6. H. Gordon, J. Edmonds, S. Ghandali, W. Yan, **N. Karimian**, and F. Tehranipoor, "Flash-Based Security Primitives: Evolution, Challenges, and Future Directions," in *Cryptography*, vol. 5, no. 7, pp. 1-29, 2021.
7. R. Cordeiro, D. Gajaria, A. Limaye, T. Adegbiya, **N. Karimian**, and F. Tehranipoor, "ECG-Based Authentication Using Timing-Aware Domain-Specific Architecture," in *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, vol. 39, no. 11, pp. 3373-3384, Nov. 2020.
8. M. Ingale, R. Cordeiro, S. Thentu, Y. Park, and **N. Karimian**, "ECG Biometric Authentication: A Comparative Analysis," in *IEEE Access*, vol. 8, pp. 117853-117866, 2020.
9. M. Yue, **N. Karimian**, W. Yan, N. Anagnostopoulos, and F. Tehranipoor, "DRAM-based Authentication using Deep Convolutional Neural Networks," in *IEEE Consumer Electronics Magazine*, 2020.
10. **N. Karimian**, D. Woodard and D. Forte, "ECG Biometric: Spoofing and Countermeasures," in *IEEE Transactions on Biometrics, Behavior, and Identity Science*, vol. 2, no. 3, pp. 257-270, July 2020,
11. **N. Karimian**, M. Tehranipoor, D. Woodard and D. Forte, "Unlock Your Heart: Next Generation Biometric in Resource-Constrained Healthcare Systems and IoT," in *IEEE Access*, vol. 7, pp. 49135-49149, 2019.

12. F. Ganji., **N. Karimian**, D. Woodard, and D. Forte, "Leave Adversaries in the Dark-BLOcKeR: Secure and Reliable Biometric Access Control," *The Journal of the Homeland Defense and Security Information Analysis Center (HDIAC)*, Vol. 6, No. 1, Spring, 2019.
13. F. Tehranipoor, P. Wortman, **N. Karimian**, W. Yan and J. A. Chandy, "DVFT: A Lightweight Solution for Power-Supply Noise-Based TRNG Using Dynamic Voltage Feedback Tuning System," in *IEEE Transactions on Very Large-Scale Integration (VLSI) Systems*, vol. 26, no. 6, pp. 1084-1097, June 2018.
14. **N. Karimian**, Z. Guo, M. Tehranipoor and D. Forte, "Highly Reliable Key Generation from Electrocardiogram (ECG)," in *IEEE Transactions on Biomedical Engineering*, vol. 64, no. 6, pp. 1400-1411, June 2017.
15. F. Tehranipoor, **N. Karimian**, W. Yan and J. A. Chandy, "DRAM-Based Intrinsic Physically Unclonable Functions for System-Level Security and Authentication," in *IEEE Transactions on Very Large-Scale Integration (VLSI) Systems*, vol. 25, no. 3, pp. 1085-1097, March 2017.

Peer-Reviewed Conference and Workshop Proceedings

1. O. Ahmadeih, **N. Karimian**, "Adv-TGD: Adversarial Text-Guided Diffusion for Face Recognition", Network and Distributed System Security (NDSS) Symposium 2027, March 22-26, Seoul, under review.
2. M. Masoudi, S. Tehranipoor, **N. Karimian**, "Robust Spoofed Speech Detection via Temporal Pyramid Modeling", International Conference on Acoustics, Speech, and Signal Processing (ICASSP), May 16-21, Toronto, 2027, Under review
3. O. Ahmadeih, **N. Karimian**, "DiffAttack: Evasion Attacks Against Face Recognition via Latent Diffusion Models", IEEE International Joint Conference on Biometrics (IJCB), Italy, 2026, Accepted.
4. A. Ogunjembola and N. Karimian, "Segment-Level ECG Classification for Hyperglycemia Detection: A Hybrid CNN-Transformer Feasibility Study," accepted for publication in Proc. 2026 IEEE International Conference on Machine Learning and Applications (ICMLA), 2026.
5. B. Adami, **N. Karimian** and J. Dawson, "rECG: A Guided Diffusion Framework for Remote Electrocardiography Reconstruction from Facial Video," 2025 IEEE International Joint Conference on Biometrics (IJCB), Osaka, Japan, 2025, pp. 1-9.
6. B. Adami and **N. Karimian**, "GRU-AUNet: A Domain Adaptation Framework for Contactless Fingerprint Presentation Attack Detection," 2025 Silicon Valley Cybersecurity Conference (SVCC), San Francisco, CA, USA, 2025, pp. 1-8.
7. L. M. Romero, **N. Karimian** and S. Tehranipoor, "Poster: A Deep-Learning Approach for ECG-Based Cryptographic Key Generation," 2025 Silicon Valley Cybersecurity Conference (SVCC), San Francisco, CA, USA, 2025, pp. 1-3.
8. B. Adami, **N. Karimian**, "rPPG-SysDiaGAN: Systolic-Diastolic Feature Localization in rPPG Using Generative Adversarial Network with Multi-domain Discriminator" European Conference on Computer Vision (ECCV), 2025, pp 193–210.
9. L. Igene *et al.*, "Face Liveness Detection Competition (LivDet-Face) - 2024," 2024 IEEE International Joint Conference on Biometrics (IJCB), Buffalo, NY, USA, 2024, pp. 1-9,

10. B. Adami, M. Hosseinzadehketilath and **N. Karimian**, "Contactless Fingerprint Biometric Anti-Spoofing: An Unsupervised Deep Learning Approach," *2024 IEEE International Joint Conference on Biometrics (IJCB)*, Buffalo, NY, USA, 2024, pp. 1-10,
11. M. Hosseinzadehketilath, B. Adami and **N. Karimian**, "Advancements in Continuous Glucose Monitoring: Integrating Deep Learning and ECG Signal," *2024 46th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, Orlando, FL, USA, 2024, pp. 1-4.
12. M. Hosseinzadehketilath, S. Tehranipoor and **N. Karimian**, "Human-to-Device (H2D) Authentication Using Biometrics," *2024 Silicon Valley Cybersecurity Conference (SVCC)*, Seoul, Korea, Republic of, 2024, pp. 1-3.
13. K. Hasan, **N. Karimian** and S. Tehranipoor, "Combating Deepfakes: A Novel Hybrid Hardware-Software Approach," *2024 Silicon Valley Cybersecurity Conference (SVCC)*, Seoul, Korea, Republic of, 2024, pp. 1-2.
14. K. Hasan, S. Tehranipoor, **N. Karimian** and S. Vasudeva, "NAND Flash-Based Digital Fingerprinting for Robust and Secure Hardware Authentication," *2024 25th International Symposium on Quality Electronic Design (ISQED)*, San Francisco, CA, USA, 2024, pp. 1-6.
15. B. Adami, S. Tehranipoor, N. Nasrabadi and **N. Karimian**, "A Universal Anti-Spoofing Approach for Contactless Fingerprint Biometric Systems," *2023 IEEE International Joint Conference on Biometrics (IJCB)*, Ljubljana, Slovenia, 2023, pp. 1-8.
16. S. Tehranipoor, N. Karimian and J. Edmonds, "Breaking AES-128: Machine Learning-Based SCA Under Different Scenarios and Devices," *2023 IEEE International Conference on Cyber Security and Resilience (CSR)*, Venice, Italy, 2023, pp. 564-571.
17. A. Garg and **N. Karimian**, "Leveraging Deep CNN and Transfer Learning for Side-channel Attack," *2021 22nd International Symposium on Quality Electronic Design (ISQED)*, 2021, pp. 91-96.
18. H. Jeon, **N. Karimian**, and T. Lehman, "A New Foe in GPUs: Power Side-Channel Attacks on Neural Network," *2021 22nd International Symposium on Quality Electronic Design (ISQED)*, 2021, pp. 313-313.
19. K. Sahu, R. Kshirsagar, S. Vasudeva, T. Alzahrani, and **N. Karimian**, "Leveraging Timing Side-Channel Information and Machine Learning for IoT Security," *2021 IEEE International Conference on Consumer Electronics (ICCE)*, Jan. 2021, pp. 1-6.
20. T. Lyp, **N. Karimian**, and F. Tehranipoor, "LISH: A New Random Number Generator Using ECG Noises" *2021 IEEE International Conference on Consumer Electronics (ICCE)*, Jan. 2021, pp. 1-6.
21. S. Thentu, R. Cordeiro, Y. Park, and **N. Karimian**, "ECG Biometric Using 2D Deep Convolutional Neural Network," *2021 IEEE International Conference on Consumer Electronics (ICCE)*, Jan. 2021, pp. 1-6.

22. A. Garg and **N. Karimian**, "ECG Biometric Spoofing Using Adversarial Machine Learning," in *39th IEEE International Conference on Consumer Electronics (ICCE)*, Jan. 2021, pp. 1-5.
23. K. Sahu, R. Kshirsagar, S. Vasudeva, T. Alzahrani, and **N. Karimian**, "IoT Checker Using Timing Side-channel and Machine Learning," in *Silicon Valley Cybersecurity Conference (SVCC)*, Dec. 2020.
24. F. Tehranipoor, **N. Karimian**, M. Mozaffari-Kermani, and M. Mahmoodi, "Deep RNN-Oriented Paradigm Shift through BOCANet: Broken Obfuscated Circuit Attack," In *Proceedings of the 25th edition on Great Lakes Symposium on VLSI (GLSVLSI)*, May 2019, pp 335–338.
25. **N. Karimian**, "How to Generate Robust Keys from Noisy DRAMs?," In *Proceedings of the 25th edition on Great Lakes Symposium on VLSI (GLSVLSI)*, May 2019, pp 465–469
26. **N. Karimian**, "HeartID-based Authentication for Autonomous Vehicles using Deep Learning and Random Number Generators," *SPIE Defense and Commercial Sensing*, April 2019.
27. **N. Karimian**, "Cardiovascular PPG biometric key generation for IoT in healthcare domain," In *Mobile Multimedia/Image Processing, Security, and Applications 2019* (Vol. 10993, p. 109930X). International Society for Optics and Photonics.
28. F. Tehranipoor, **N. Karimian**, and A. Pugazhenth, "DLA-PUF: Deep Learning Attacks on Hardware Security Primitives," *SPIE Defense and Commercial Sensing*, April 2019.
29. **N. Karimian**, "How to Attack PPG Biometric using Adversarial Machine Learning," *SPIE Defense and Commercial Sensing*, April 2019.
30. **N. Karimian**, H. Salehi, M. Mahdian, H. Alnajjar, and A. Tadinada, "Deep Learning Classifier with Optical Coherence Tomography Images for Early Dental Caries Detection," *Proc. SPIE BIOS 10044, Lasers in Dentistry XXIV*, Jan. 2018. **(Best Paper Award Nomination)**
31. F. Tehranipoor, **N. Karimian**, P. A. Wortman and J. A. Chandy, "Low-cost authentication paradigm for consumer electronics within the internet of wearable fitness tracking applications," *2018 IEEE International Conference on Consumer Electronics (ICCE)*, Las Vegas, NV, 2018, pp. 1-6.
32. **N. Karimian**, D. L. Woodard and D. Forte, "On the vulnerability of ECG verification to online presentation attacks," *2017 IEEE International Joint Conference on Biometrics (IJCB)*, Denver, CO, 2017, pp. 143-151. **(Received IAPR TC4 Best Student Paper Award)**
33. F. Tehranipoor, **N. Karimian**, W. Yan and J. A. Chandy, "Investigation of DRAM PUFs reliability under device accelerated aging effects," *2017 IEEE International Symposium on Circuits and Systems (ISCAS)*, Baltimore, MD, 2017, pp. 1-4.
34. **N. Karimian**, Z. Guo, M. Tehranipoor and D. Forte, "Noise assessment framework for optimizing ECG key generation," *2017 IEEE International Symposium on Technologies for Homeland Security (HST)*, Waltham, MA, 2017, pp. 1-6.
35. **N. Karimian**, Z. Guo, M. Tehranipoor and D. Forte, "Human recognition from photoplethysmography (PPG) based on non-fiducial features," *2017 IEEE*

International Conference on Acoustics, Speech and Signal Processing (ICASSP), New Orleans, LA, 2017, pp. 4636-4640.

36. **N. Karimian**, M. Tehranipoor and D. Forte, "Non-fiducial PPG-based authentication for healthcare application," *2017 IEEE EMBS International Conference on Biomedical & Health Informatics (BHI)*, Orlando, FL, 2017, pp. 429-432.
37. F. Tehranipoor, **N. Karimian**, P. A. Wortman, and J. Chandy, "Investigation of the IoT in its Application to Low-Cost Authentication within Healthcare," *IEEE-EMBS International Conference on Biomedical and Health Informatics*, Feb. 2017
38. P. A. Wortman, F. Tehranipoor, **N. Karimian** and J. A. Chandy, "Proposing a modeling framework for minimizing security vulnerabilities in IoT systems in the healthcare domain," *2017 IEEE EMBS International Conference on Biomedical & Health Informatics (BHI)*, Orlando, FL, 2017, pp. 185-188.
39. F. Tehranipoor, **N. Karimian**, W. Yan and J. A. Chandy, "A Study of Power Supply Variation as a Source of Random Noise," *2017 30th International Conference on VLSI Design and 2017 16th International Conference on Embedded Systems (VLSID)*, Hyderabad, 2017, pp. 155-160. **(Received Best Technical Paper Award)**
40. **N. Karimian**, P. A. Wortman and F. Tehranipoor, "Evolving authentication design considerations for the Internet of biometric things (IoBT)," *2016 International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS)*, Pittsburgh, PA, 2016, pp. 1-10.
41. **N. Karimian**, D. Woodard, and D. Forte, "Biometrics for Authentication in Resource-Constrained Systems," *International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, Aug. 2016.
42. Z. Guo, **N. Karimian**, M. Tehranipoor and D. Forte, "Hardware security meets biometrics for the age of IoT," *2016 IEEE International Symposium on Circuits and Systems (ISCAS)*, Montreal, QC, 2016, pp. 1318-1321.
43. Z. Guo, **N. Karimian**, M. Tehranipoor and D. Forte, "Biometric Based Human-to-Device (H2D) Authentication," *Government Microcircuit Applications and Critical Technology Conference (GOMACTech)*, March. 2016.
44. **N. Karimian**, F. Tehranipoor, M. T. Rahman, S. Kelly and D. Forte, "Genetic Algorithm for hardware Trojan detection with ring oscillator network (RON)," *2015 IEEE International Symposium on Technologies for Homeland Security (HST)*, Waltham, MA, 2015, pp. 1-6.
45. F. Tehranipoor, **N. Karimian**, K. Xiao, and J. Chandy, "DRAM based Intrinsic Physical Unclonable Functions for System Level Security," In Proceedings of the 25th edition on Great Lakes Symposium on VLSI (GLSVLSI '15). Association for Computing Machinery, New York, NY, USA, 15–20.

Invited Talks and Presentations

- Biometric Security in the Age of Generative AI: From Anti-Spoofing to Health Monitoring April 25
- Distinguished Webinar Invitation - University of North Dakota
- Universal approach for Contactless Fingerprint Biometric Anti-Spoofing May 25

- CITeR Workshop presentation for funding
- Online Age Verification Nov. 22
 - Panel Session at Concordia University, Invited by MP Arnold Viersen
- Continuous Biometrics Authentication Using Heart Signal: Lessons Learned and Promising New Directions Oct. 22
 - IEEE Pittsburgh Section Seminar, Invited by Dr. Gianfranco Doretto
- Continuous Biometrics Authentication Using Heart Signal: Evolution, Challenges and Future Directions Sep. 22
 - Webinar talk at The Selected Group, Invited by Leigh-Wallace Dodd
- ECG Biometric System: Evolution, Challenges and Future Directions Sep. 21
 - Seminar talk at University of California Merced, Invited by Dr. Hyeran Jeon
- New Trends and Challenges in Facial Recognition Oct. 20
 - Seminar talk at SJSJ for the Diversity, Equity, and Inclusion: A Focus on Black Lives Matter
- Hardware Trojan and ML based detection Jun. 20
 - Virtual summer camp tutorial for graduate and undergraduate students
- Internet of Things Security using Physical Unclonable Functions and Hardware TRNG Apr. 19
 - Guest lectures for CMPE 189: IoT security
- Hardware Security Meets Biometrics for the Age of IoT Oct. 17
 - Doctoral Consortium presentation at International Joint Conference on Biometrics
- On the Vulnerability of ECG Verification to Online Presentation Attacks Oct. 17
 - Presentation at IJCB conference and received Best Paper Award
- How to generate secret keys using ECG biometric data Oct. 16
 - Seminar talk Comcast Center of Excellence for Security Innovation

Supervision and Committees_____

Current PhD Students

Omid Ahmadi

Sushmoy Barua

Ananta Raha

Current Ms. Students

Esteban Quintero Gonzalez

Srinija Pagidyala

Mahtab Masoudi Nezhad

Former Students

Adam Ogunjembola, Ph.D. with WVU, May 2026

Anna Systaliuk, Apple, May 2022

Alaukika Diwanji, Amazon, May 2021

Deeksha Mahalingappa, Meta, May 2021

Anand Kumar, Warner Brothers Discovery, May 2020

Venkata Esha Prajwal, Meta, May 2021

Sheena Gupta, Amazon, May 2020

Divjyot Khanuja, Klear.ai, May 2020

Arman Pathan, IntraEdge, May 2020

Kratika Sahu, Slalom, May 2021

Rasika Kshirsagar, FormFactor, May 2021

Kanika Khanna, Box, May 2021

Udit Niraj Marolia, SAP, May 2021

Panth Rajnish Desai, HappyRobot, May 2021

Jay Satishkumar Pathak, SAP, May 2021

Dhruwaksh Dave, Microsoft, May 2021

Pratyush Sharma, Amazon, May 2022

Yashwant Khade, Google, May 2021

Sai Chaitanya Dasari, Microsoft, May 2021

Aditi Kumari, Amazon, Dec 2020

Prathamesh Patki, Palo Alto Network, December 2020

Surbhi Vasudeva, Amazon, December 2020

Nachiket Trivedi, Amazon, May 2020

Amit Garg, Microsoft, May 2020

Kunj J. Parikh, Lam Research, May 2020

Jason Gonsalves, Wells Fargo, May 2020

Priyanka Kumar, Forcepoint, May 2020

Aakash Alurkar, Zoom, May 2020

Harmeen Joshi, Hewlett Packard, May 2020

Rajas Tulpule, Microsoft, May 2020

Sayali Patil, PayPal, May 2020

Arihant Sai Paruchuru, SoFi, May 2020

Aditi Khurd, Amazon, May 2020

Akhil Krishnamoorthy, Palo Alto Network, May 2020

Alok Goyal, Amazon, May 2020

Maahi Chatterjee, Swinerton, May 2020

Renato S Cordeiro, Delinea, Dec 2019

Jeremy N. Chau, Northrop Grumman, Dec 2019

Miao Wang

Kavya Yerneni

Taghreed Alzahrani

Tiffany Lee

PhD Committee Members

Atefeh Khoshkhahtination, Ph.D dissertation committee member; Neural Network-based Image Compression

Nima Najafzadeh, Ph.D dissertation committee member; Multi-Teacher Knowledge Distillation for Image Classification – From Conventional Classification to Face Image Quality Factor Assessment

Md Mahedi Hasan, Ph.D dissertation committee member; Improving Face Recognition from Caption Supervision with Multi-Granular Contextual Feature Aggregation

Ms. Thesis Committee Members

Mahtab Masoudi Nezhad, Chair of Thesis committee; Robust Spoofed Speech Detection via Temporal Pyramid Modeling

Adam Ogunjembola, Chair of Thesis committee; Hyperglycemia Detection from Single-Lead ECG using a Hybrid CNN & Transformer Model

Banafsheh Adami, Chair of Thesis committee; Deep Learning-Driven Biometric Security: Advancing Liveness Detection and Anti-Spoofing Techniques

Chris Burton, Thesis committee member; Deep Learning-Based Generation of Synthetic Contactless Fingerphotos

Evan Garrett, Thesis committee member; The Effect of Facial Phenotypes on Differential Performance of Facial Recognition

Ethan Meighen, Thesis committee member; Effect of Specific Data Variations on Forensic Speaker Recognition

Voke Brume, Thesis committee member; A Domain Adaptation Approach for Morphology-Independent Cell Instance Segmentation

Miao Wang, Chair of Thesis committee; A RISC-V Matrix Multiplier Using Systolic Arrays

Anna Systaliuk, Thesis committee member; Achieving Location Privacy in iOS Platform Using Location Privacy Framework

Kunj J. Parikh, Thesis committee member; LSTM-enabled Level Curve Tracking in Scalar Fields Using Multiple Mobile Robots

Jeremy N. Chau, Thesis committee member; A Code Reputation System Using AI and Blockchain Technology

Siddharth Thakurdesai, Thesis committee member; ZigBeeSec: A Secure Management System Against Vulnerabilities in Smart Home Devices

Renato Silveira Cordeiro, Chair of Thesis committee; Non-invasive Hyperglycemia Detection using ECG and Deep Learning

Senior Design Project, Undergraduate

Student	Semester	Project
Bang Nguyen	S'21	Serial Communication Debug Tool for Embedded System
Tung Nguyen	S'21	Serial Communication Debug Tool for Embedded System
Hung Nguyen	S'21	Serial Communication Debug Tool for Embedded System
Phuong Pham	S'21	Serial Communication Debug Tool for Embedded System
Prajwal Singhal	F'20	FinTrack: An Expense Tracker
Nisun Alade	F'20	FinTrack: An Expense Tracker
Riya Jain	F'20	FinTrack: An Expense Tracker
Nithil Sethupathi	F'20	FinTrack: An Expense Tracker
Chak Hong Chan	F'20	Sign Language Transcriber
Jackson Truong	F'20	Sign Language Transcriber
Jonathan Naraja	F'20	Sign Language Transcriber
Jason Chong	F'20	Sign Language Transcriber
Alex Gomez-Chave	S'20	Package Protect
Darren Truong	S'20	Package Protect

Student	Semester	Project
Luis Avila	S'20	Package Protect
Kevin Wong	S'20	Package Protect
Thomas Sciaroni	S'20	Modular Automotive Safety Technology
Omar Habra	S'20	Modular Automotive Safety Technology
Zachary Nguyen	S'20	Modular Automotive Safety Technology
Ameen Saleminik	S'20	Modular Automotive Safety Technology
Christina Nguyen	S'20	ECG and Blood Oxygen Level Measurement iOS app with device
Jesse Pham	S'20	ECG and Blood Oxygen Level Measurement iOS app with device
Karina Wong	S'20	ECG and Blood Oxygen Level Measurement iOS app with device
Ada Wong	S'20	ECG and Blood Oxygen Level Measurement iOS app with device
Aiden Chan	S'20	S.R. Robo
Johnny Phenglavor	S'20	S.R. Robo
Hung Che	S'20	S.R. Robo
Jeanie Chea	S'20	S.R. Robo
Sanghyun Ryu	S'20	Smart Irrigation System to Improve Soil Moisture

Student	Semester	Project
Tanay Kumar	S'20	Smart Irrigation System to Improve Soil Moisture
Ashley Kim	S'20	Smart Irrigation System to Improve Soil Moisture
Sunghun Kwak	S'20	Smart Irrigation System to Improve Soil Moisture
Sophie Chen	S'20	Mobile Robotic Metal Detector
Jessica Lam	S'20	Mobile Robotic Metal Detector
Jefferson Ly	S'20	Mobile Robotic Metal Detector
Daniel Nomura	S'20	Mobile Robotic Metal Detector
Michael Wang	F'19	Open Source Thermal Camera
Grant Haack	F'19	Open Source Thermal Camera
Tarnjit Ghag	F'19	Open Source Thermal Camera
Donghwe Ko	F'19	Open Source Thermal Camera
Sandro Sallenbach	F'19	Secure Enterprise Research Distribution Software
Minh Phan	F'19	Secure Enterprise Research Distribution Software
Antonio Bares	F'19	Secure Enterprise Research Distribution Software
Vinny Senthil	F'19	Secure Enterprise Research Distribution Software
Nickolas Schiffer	F'19	Motion Controlled 3D Printed Robotic Arm in Virtual Reality

Student	Semester	Project
Salvatore Nicosia	F'19	Motion Controlled 3D Printed Robotic Arm in Virtual Reality
Zackary Nicholson	F'19	Motion Controlled 3D Printed Robotic Arm in Virtual Reality
Manuel Chavez	F'19	Motion Controlled 3D Printed Robotic Arm in Virtual Reality
Joseph Culaton	F'19	Drowsiness and Fatigue Detection in Car
Alan Tan	F'19	Drowsiness and Fatigue Detection in Car
Mandy Ngan	F'19	Drowsiness and Fatigue Detection in Car
Brian Tran	F'19	Drowsiness and Fatigue Detection in Car
Michelle Natasha	F'19	Smart Dog Collar
Saloni Madaan	F'19	Smart Dog Collar
Alam Figueroa	F'19	Smart Dog Collar
Melissa Jimenez	F'19	Smart Dog Collar
Zoie MacDougall	F'19	Package Protect
Gabriele Roque	F'19	Package Protect
Derek Nguyen	F'19	Package Protect
Evan Ugarte	F'19	Package Protect

Academic Service

Departmental and University Appointments

University of South Florida, Bellini College of Artificial Intelligence, Cybersecurity and Computing, Tampa, FL

UG Commencement, AY 2025-2026

West Virginia University, LCSEE Department, Morgantown, WV

CPE Curriculum Committee, AY 22-23

Online MS Cybersecurity Curriculum Committee, AY 22-23

San Jose State University, CMPE Department, San Jose, CA

Faculty Search Committee, AY 20-21, AY 21-22

School of Engineering Research Committee, AY 20-21, AY 21-22

SJSU Student Scholarship Review Committee, AY 20-21

Department of Computer Engineering Research Committee, AY 20-21

Chair, Software and Computer Engineering (SCE) club advisor, AY 19-

20 Graduate

Study Curriculum Committee, AY 19-20

Graduate Study Curriculum Committee, AY 19-20

Professional Activities

Reviewer and Panelist

National Science Foundation (NSF), 2020, 2021, 2025

Editorial Activities

Associate Editor, IEEE Transactions on Circuits and Systems Part I: Regular Papers (TCAS-I), 2023

Associate Editor, Discover Internet of Things Journal, 2020-2024

Associate Editor, Emerging Trends in Sensors, IoT and Smart Systems, 2022-present

Guest Editor, Sensor Journal Special Issue on "Trustworthy IoT Sensing: Advancing Adversarial Robustness, Privacy, and Security", 2026

Guest Editor, Discover Internet of Things Journal Special Issue on "Emerging Physical Layer Security Solutions for IoT Devices", 2020-21

Guest Editor, Sensor Journal Special Issue on "Intelligent Solutions for Cybersecurity", 2021-23

Guest Editor, Electronics Journal Special Issue on "Recent Advances in Biometric Security in IoT Based on Machine Learning", 2020-22

Conference Organizing Committees

General Chair: Silicon Valley Cybersecurity Conference, 2024

Program Chair: Silicon Valley Cybersecurity Conference, 2023

Track chair: International Symposium on Quality Electronic Design (ISQED), 2021, 2022, 2023

Special Sessions Co-chair: International Symposium on Quality Electronic Design (ISQED), 2021

Registration Chair: Silicon Valley Cybersecurity Conference (SVCC), 2020

Session's chair: International Symposium on Quality Electronic Design (ISQED), 2020

Program Committee Memberships

Design Automation Conference (DAC), 2026

ACM Conference on Computer and Communications Security (CCS), Poster and Demo, 2024, 2025

IEEE International Symposium on Hardware Oriented Security and Trust (HOST), 2022, 2023

IEEE International Symposium on Smart Electronic Systems (iSES), 2022, 2023

Silicon Valley Cybersecurity Conference (SVCC), 2020-2026

International Symposium on Quality Electronic Design (ISQED), 2020, 2021, 2022, 2023

International Conference on Omni-layer Intelligent systems (COINS), 2019

Reviewer – Journal

IEEE Transactions on Information Forensics and Security (TIFS), 2016-2026

ACM Journal on Emerging Technologies in Computing Systems (JETC), 2020

IEEE Transactions on Artificial Intelligence, 2020

IET Biometrics, 2020

IEEE Access, 2019-2024

Elsevier Microprocessors and Microsystems: Embedded Hardware Design (MICPRO), 2019-2020

IEEE Transactions on Systems Man and Cybernetics Systems (SMCS), 2019-2020
 IEEE Transactions on Biometrics, Behavior, and Identity Science (T-BIOM), 2019-2026
 IEEE Transactions on Biomedical Engineering (TBME), 2017-2026
 IEEE Transactions on Very Large-Scale Integration systems (TVLSI), 2018, 2021
 IEEE Transactions on Circuits and Systems I (TCAS I), 2018
 IEEE Transactions on Signal Processing (TSP), 2018, 2019
 Elsevier Journal of Systems Architecture: Embedded Software Design (JSA), 2018
 IEEE Consumer Electronics Magazine (ICEM), 2018

Reviewer – Conference

International Symposium on Quality Electronic Design (ISQED), 21,22
 IEEE International Symposium on Smart Electronic Systems (iSES), 21
 Silicon Valley Cybersecurity Conference (SVCC), 20-26
 Design Automation Conference (DAC), 18-16
 International Joint Conference on Biometrics (IJCB), 20-26
 IEEE International Conference on Biometrics: Theory, Applications, and Systems (BTAS), 18, 19
 Network & Distributed System Security Symposium (NDSS), 2017-2022
 IEEE International Conference on Computer Design (ICCD), 2015

Citizenship Status

U. S. Citizen