

DIKSHA SHUKLA (Curriculum Vitae)

DATE: September 14, 2024

NAME: Diksha Shukla

CURRENT POSITION:

Assistant Professor (tenure track), Department of Electrical Engineering and Computer Science

UW ADDRESS:

EERB 422A
Dept of Electrical Engineering and Computer Science
College of Engineering and Physical Science
University of Wyoming, Laramie, WY 82071
Email: dshukla@uwyo.edu

EDUCATION:

Degree	Year	University
PhD (Computer & Info. Sci. and Eng.)	2019	Syracuse University, USA
MS (Mathematics)	2014	Louisiana Tech University, USA
MCA (Masters in Computer Applications)	2011	Jawaharlal Nehru University, India
BS (Mathematics, Physics)	2008	Kanpur University, India

EMPLOYMENT:

Position	Organization	Dates
Assistant Professor (tenure track)	The University of Wyoming, USA	August, 2019 - Present
Graduate Research/Teaching Assistant	Syracuse University, USA	August, 2014 - July, 2019
Graduate Research Assistant	Louisiana Tech University, USA	March, 2013 - August, 2014
Associate Technology	Sapient Technologies, India	August, 2011 - Feb, 2013
Software Engineer (Trainee)	Samsung Engineering Labs, India	January, 2011 - May, 2011

1 SELECTED PUBLISHED WORKS

1.1 Peer Reviewed Journal/Transactions Articles

- [J5] Mohana, M., Subashini, P., **Shukla, D.**, "Revisiting face detection: Supercharging Viola-Jones with particle swarm optimization for enhanced performance". In: *Journal of Intelligent & Fuzzy Systems* Preprint (2024), pp. 1–15. DOI: 10.3233/JIFS-238947.
- [J4] **Shukla, D.**, Kundu, P. P., Malapati, R., Poudel, S., Jin, Z., Phoha, V. V., "Thinking Unveiled: An Inference and Correlation Model to Attack EEG Biometrics". In: *ACM Digital Threats: Theory and Practice (ACM DTRAP) 1.2* (May 2020). ISSN: 2692-1626. DOI: 10.1145/3374137. URL: <https://doi.org/10.1145/3374137>.

- [J3] **Shukla, D.**, Phoha, V. V., “Stealing Passwords by Observing Hands Movement”. In: *IEEE Transactions on Information Forensics and Security* 14.12 (Dec. 2019), pp. 3086–3101. DOI: 10.1109/TIFS.2019.2911171.
- [J2] Serwadda, A., Phoha, V. V., Wang, Z., Kumar, R., **Shukla, D.**, “Toward Robotic Robbery on the Touch Screen”. In: *ACM Trans. Inf. Syst. Secur.* 18.4 (May 2016), 14:1–14:25. ISSN: 1094-9224. DOI: 10.1145/2898353. URL: <http://doi.acm.org/10.1145/2898353>.
- [J1] Kumar, R., Kumar, S., **Shukla, D.**, Raw, R. S., Kaiwartya, O., “Geometrical Localization Algorithm for Three Dimensional Wireless Sensor Networks”. In: *Wireless Personal Communications* 79.1 (Nov. 2014), pp. 249–264. ISSN: 1572-834X. DOI: 10.1007/s11277-014-1852-6. URL: <https://doi.org/10.1007/s11277-014-1852-6>.

1.2 Peer Reviewed Conference Proceedings

- [C14] Gopal, S. R. K., Sansah, P., **Shukla, D.**, “HM-Auth: Redefining User Authentication in Immersive Virtual World through Hand Movement Signatures”. In: *The 18th IEEE International Conference on Automatic Face and Gesture Recognition (IEEE FG 2024)*. Istanbul, Turkey: IEEE, May 2024. URL: <https://brosdocs.net/fg2024/314.pdf>.
- [C13] Bolouri, S., **Shukla, D.**, “An EEG-Based User Authentication System Using Event-Related Potentials and Ensemble Learning”. In: *To Appear in IEEE 4th Cyber Awareness and Research Symposium (IEEE CARS 2024)*. South Dakota, US: IEEE, 2024.
- [C12] Gopal, S. R. K., **Shukla, D.**, Wheelock, J. D., Saxena, N., “Hidden Reality: Caution, Your Hand Gesture Inputs in the Immersive Virtual World are Visible to All!” In: *32nd USENIX Security Symposium (USENIX Security 23)*. Anaheim, CA: USENIX Association, Aug. 2023, pp. 859–876. ISBN: 978-1-939133-37-3. URL: <https://www.usenix.org/conference/usenixsecurity23/presentation/gopal>.
- [C11] Vinay, R., Premjith, B., **Shukla, D.**, Soman, K. P., “Feature Engineering and Selection for the Identification of Fake News in Social Media”. In: *Proceedings of the 2nd International Conference on Signal and Data Processing*. Ed. by K. P. Ray, Arati Dixit, Debashis Adhikari, and Ribu Mathew. Singapore: Springer Nature Singapore, 2023, pp. 291–301. ISBN: 978-981-99-1410-4. URL: https://link.springer.com/chapter/10.1007/978-981-99-1410-4_24.
- [C10] Nair, A. J., Premjith, B., **Shukla, D.**, Soman, K. P., “Continuous Authentication Using Gait Patterns”. In: *Proceedings of the 2nd International Conference on Signal and Data Processing*. Ed. by K. P. Ray, Arati Dixit, Debashis Adhikari, and Ribu Mathew. Singapore: Springer Nature Singapore, 2023, pp. 447–459. ISBN: 978-981-99-1410-4. URL: https://link.springer.com/chapter/10.1007/978-981-99-1410-4_37.
- [C9] Shrestha, P., Saxena, N., **Shukla, D.**, Phoha, V. V., “Press @\$@\$ to Login: Strong Wearable Second Factor Authentication via Short Memorywise Effortless Typing Gestures”. In: *2021 IEEE European Symposium on Security and Privacy (EuroSP)*. Los Alamitos, CA, USA: IEEE Computer Society, Sept. 2021, pp. 71–87. DOI: 10.1109/EuroSP51992.2021.00016. URL: <https://doi.ieeeecomputersociety.org/10.1109/EuroSP51992.2021.00016>.

- [C8] Kalathur Gopal, S. R., **Shukla, D.**, “A Temporal Memory-based Continuous Authentication System”. In: *2021 IEEE International Joint Conference on Biometrics (IJCB)*. 2021, pp. 1–7. DOI: 10.1109/IJCB52358.2021.9484365.
- [C7] Gopal, S. R. K., **Shukla, D.**, “Concealable Biometric-based Continuous User Authentication System An EEG Induced Deep Learning Model”. In: *2021 IEEE International Joint Conference on Biometrics (IJCB)*. 2021, pp. 1–8. DOI: 10.1109/IJCB52358.2021.9484345.
- [C6] Song, J., **Shukla, D.**, Wu, M., Phoha, V. V., Moon, Y., “Physical Data Auditing for Attack Detection in Cyber-Manufacturing Systems: Blockchain for Machine Learning Process”. In: *ASME 2019 International Mechanical Engineering Congress and Exposition (IMECE 2019)*. Salt Lake City, UT, USA: American Society of Mechanical Engineers, Nov. 2019. URL: <https://doi.org/10.1115/IMECE2019-10442>.
- [C5] **Shukla, D.**, Wei, G., Xue, D., Jin, Z., Phoha, V. V., “Body-Taps: Authenticating Your Device Through Few Simple Taps”. In: *2018 IEEE 9th International Conference on Biometrics Theory, Applications and Systems (BTAS)*. Oct. 2018, pp. 1–8. DOI: 10.1109/BTAS.2018.8698602.
- [C4] **Shukla, D.**, Phoha, V. V., Prakash, S., “Looking Through Your Smartphone Screen to Steal Your Pin Using a 3D Camera”. In: *Intelligent Computing*. Ed. by Kohei Arai, Supriya Kapoor, and Rahul Bhatia. Cham: Springer International Publishing, Oct. 2018, pp. 1010–1020. ISBN: 978-3-030-01177-2. URL: https://link.springer.com/chapter/10.1007/978-3-030-01177-2_73.
- [C3] **Shukla, D.**, Phoha, V. V., “A Closer Look at Video-Based Side Channel Attacks on the Smartphone User’s Pin”. In: *The Society for Design and Process Science Transformative Research and Education through Transdisciplinary Means*. Birmingham, AL, USA, Nov. 2017, pp. 189–194.
- [C2] Kumar, R., Kundu, P. P., **Shukla, D.**, Phoha, V. V., “Continuous user authentication via unlabeled phone movement patterns”. In: *2017 IEEE International Joint Conference on Biometrics (IJCB)*. Oct. 2017, pp. 177–184. DOI: 10.1109/BTAS.2017.8272696.
- [C1] **Shukla, D.**, Kumar, R., Serwadda, A., Phoha, V. V., “Beware, Your Hands Reveal Your Secrets!” In: *Proceedings of the 2014 ACM SIGSAC Conference on Computer and Communications Security*. CCS '14. Scottsdale, Arizona, USA: ACM, 2014, pp. 904–917. ISBN: 978-1-4503-2957-6. DOI: 10.1145/2660267.2660360. URL: <http://doi.acm.org/10.1145/2660267.2660360>.

1.3 Other

- [O3] Saenz, J., Gopal, S., **Shukla, D.**, *Covid-19 Fake News Infodemic Research Dataset (CoVID19-FNIR Dataset)*. 2021. DOI: 10.21227/b5bt-5244. URL: <https://dx.doi.org/10.21227/b5bt-5244>.
- [O2] **Shukla, D.**, Chen, S., Lu, Y., Kundu, P. P., Malapati, R., Poudel, S., Jin, Z., Phoha, V. V., *Brain Signals and the Corresponding Hand Movement Signals Dataset (BS-HMS-Dataset)*. 2019. DOI: 10.21227/my1k-dd23. URL: <http://dx.doi.org/10.21227/my1k-dd23>.
- [O1] **Shukla, D.** *Inferences from Interactions with Smart Devices: Security Leaks and Defenses*. 2019. URL: <https://surface.syr.edu/etd/1060>.

1.4 Under Review/Under Preparation Works

Under Review

- [R4] Sansah, P., **Shukla, D.**, *Seamless User Authentication using Eye Movement Biometrics for Mainstream VR Devices*. 2025.
- [R3] Gyreyiri, P. S., **Shukla, D.**, *VR-Gate: Your Behavior as a Key to Secure and Seamless Authentication in Virtual Reality*. SIGCHI Conference: Human Factors in Computing Systems, ACM SigCHI, 2025.
- [R2] Zamini, M., **Shukla, D.**, *Q-Route: Quaternion-based Actor-Critic for KG Reasoning*. The 39th Annual AAAI Conference on Artificial Intelligence, Philadelphia, Pennsylvania, USA, 2024.
- [R1] Bolouri, S., **Shukla, D.**, Torabi, A., Ghorbanishovaneh, F., *A Secure User Authentication Model Utilizing EEG Brain Responses to Incongruent Stimuli*. 2025.

Under Preparation

- [P4] Sansah, P., Bolouri, S., Bahr, J., Gopal, S. R. K., **Shukla, D.**, *Exploring the Potential of Uncanny Valley Response for EEG Authentication in Immersive Virtual Environments*. 2024.
- [P3] Gopal, S. R. K., **Shukla, D.**, *BrainKey: Unlocking User Accounts with Brainwave Authentication*. IEEE Transactions on Biometrics, Behavior, and Identity Science (T-BIOM), 2024.
- [P2] Gopal, S. R. K., **Shukla, D.**, *SoK: Security Threats, Perceptions, Countermeasures, and Scientific Gaps in Immersive Virtual Reality*. ACM Computing Surveys, 2024.
- [P1] Zamini, M., **Shukla, D.**, *Neuro-symbolic Visual Reasoning: Current Advancements, Challenges, and Unexplored Frontiers*. ACM Computing Surveys.

2 Grants

- **Funded – Current** - IUCRC Planning Grant University of Wyoming: Center for AI/ML driven Research in Infrastructure Trust, Assurance, and Sustainability (AMRITAS), Funded by National Science Foundation (NSF) (August 2024 - July 2025) (\$20,000.00), (PI).
- **Funded – Current** - Online Dynamics of Fake Information: Exploring GenAI's Impact, Funded by School of Computing, University of Wyoming (July 2024 - June 2025) (\$28,600.00), (PI).
- **Awarded – Current** - Daniels Fund Faculty Fellowship, AY24-25 and AY25-26, Funded by Daniels Fund Faculty Fellowship Program, University of Wyoming (\$5,000.00), (PI).
- **Funded – Current** - REU Supplement: CAREER: BrainCAPTCHA: Completely Automated Test for User Verification using Dynamic Brain Biometrics, Funded by National Science Foundation (NSF) (August 2024 - May 2025) (\$18,400.00), (PI).
- **Funded – Current** - CAREER: BrainCAPTCHA: Completely Automated Test for User Verification using Dynamic Brain Biometrics, Funded by National Science Foundation (NSF) (June 2024 - May 2029) (\$5,63,906.00), (PI).
- **Funded – Current** - REU Site: Design, Create, and Innovate 3-Dimensional User Interfaces to Improve Human Sensory and Motor Performance in Virtual Environments (HUMANS MOVE), Funded by National Science Foundation (NSF) (April 2024 - March 2027) (\$494,108.00), (Co-PI).

- **Funded – Current** - Feasibility of Employing AI Computer Vision and Distributed Fiber Optic Sensing for Traffic and Weather Monitoring, Funded by Wyoming Department of Transportation (WyDoT) (March 2024 - September 2025) (\$195,052.00), (Co-PI).
- **Funded - Completed** - Equipment Enhancement for Brain Activity Sensing Research, Funded by Engineering Initiative, University of Wyoming (January 2024 - June 2024) (\$25,986), (PI).
- **Funded - Completed** - Real-Time Traffic Flow Estimation using Machine Intelligence and Vision Techniques, University of Wyoming (Engineering Initiative) (June'23 - May'24) (\$25,000), (Co-PI).
- **Funded - Completed** - Re-imagining Human-Computer Interaction, Funded by Engineering Initiative, University of Wyoming (April 2023 - June 2023) (\$48,380), (PI).
- **Funded - Completed** - Annotation Schema for Early Detection of High-Risk Fake Information, Funded by Social Justice Research Center, University of Wyoming (SJRC) (May 2021 - April 2022) (\$4,000), (PI).
- **Funded - Completed** - RET Site: WySTACK - Supporting Teachers And Computing Knowledge, Funded by National Science Foundation (NSF) (April 2021 - June 2024) (\$600,000.00), (Co-PI).
- **Funded - Completed** - Gateways to Computational Thinking - Integrating Music, arts and Geosciences into Rural Early Childhood Education, Funded by Grand Challenges Initiatives - Planning Grants, University of Wyoming (March 2021 - May 2023) (\$19,500.00), (Co-PI).
- **Submitted - Under Review** - Experiential Data Science Across Wyoming, Funded by National Science Foundation (NSF) (Submitted - June 21, 2024) (\$1,107,431.00), (Co-PI).
- **Submitted - Under Review** - PROGRESS: A Pathway to Resilient, Optimal Grid Security and Sustainable Energy - Strengthening Cyber Defense in Virtual Power Plants, Funded by U.S. Department of Energy (DoE) (Submitted - March 18, 2024) (\$449,999.00), (Co-PI).
- **Submitted - Under Review** - Enhancing Grid Security: A Holistic Full Stack Security Implementation Using Zero-Trust Strategies and Digital Twins, Funded by U.S. Department of Energy (DoE) (Submitted - March 04, 2024) (\$1,642,224.00), (PI).
- **Submitted - Under Review** - Enhancing Grid Resilience: A Federated Learning Approach with 3D-PAWS Weather Monitoring in Extreme Weather, Funded by U.S. Department of Energy (DoE) (Submitted - March 04, 2024) (\$449,998.00), (Co-PI).
- **Submitted - Not Funded** - NRT-AI: Graduate Program in Explainable and Interpretable AI for Trustworthiness Research, Funded by National Science Foundation (NSF) (Submitted - September 06, 2023) (\$1,999,599.00), (Co-PI).
- **Submitted - Not Funded** - Collaborative Research: EAGER: EDU: Appropriate Pedagogy for Providing Hands-on Cybersecurity Training and Awareness to Healthcare Professionals, Funded by National Science Foundation (NSF) (Submitted - July 07, 2023) (\$1,45,221.00), (PI).
- **Submitted - Not Funded** - Towards Security for Mission-critical Teleoperated Industrial Robots, Funded by Amazon Research (Submitted - July 15, 2022) (\$79,930.00), (PI).
- **Submitted - Not Funded** - NSF Convergence Accelerator Track F: Prebunking Online Dynamics of Fake Information: A Categorical Tool to Evaluate Accuracy and Risk, Submitted to National Science Foundation (NSF) (Submitted - June 14, 2021) (\$749,821.00), (PI).
- **Submitted - Not Funded** - Annotation Schema for Automated Fact Checking, Submitted to International Fact-Checking Network and the Facebook (IFCN and the Facebook) (Submitted - August 08, 2020) (\$99,956.00), (PI).

3 TEACHING

3.1 Courses Taught/Planned for Teaching

<u>Year</u>	<u>Semester</u>	<u>Course No./Title</u>	<u>Cr. Hrs.</u>
2025	Spring	COSC 4555/5555 Machine Learning	3
2024	Fall	COSC 4550/5550 Intro. to Artificial Intelligence	3
2024	Spring	COSC 4555/5555 Machine Learning	3
2023	Fall	COSC 4010/5010 Tp: Side-Channel Analysis	3
2023	Fall	COSC 4550/5550 Intro. to Artificial Intelligence	3
2023	Summer	COSC 5010 Tp: Neurosymbolic AI	3
2023	Spring	COSC 4555/5555 Machine Learning	3
2022	Fall	COSC 4550/5550 Intro. to Artificial Intelligence	3
2022	Spring	COSC 4555/5555 Machine Learning	3
2021	Fall	COSC 4550/5550 Intro. to Artificial Intelligence	3
2021	Spring	COSC 4555/5555 Machine Learning	3
2020	Fall	COSC 4550/5550 Intro. to Artificial Intelligence	3
2020	Spring	COSC 4570/5010 Data Mining	3
2019	Fall	COSC 4010/5010 Tp: Mch Learn App Cybersec	3

3.2 Student Advising

Doctoral Dissertation(s)

- PhD, Graduate Committee, **Committee Chair**, Sindhu Reddy Kalathur Gopal, Computer Science, UWyo, (Expected Graduation Date: December 2024).
- PhD, Graduate Committee, **Committee Chair**, Paul Gyreyiri Sansah, Computer Science, UWyo, (Expected Graduation Date: Ongoing (TBA)).
- PhD, Graduate Committee, **Committee Chair**, Mohamad Zamini, Computer Science, UWyo, (Expected Graduation Date: Ongoing (TBA)).
- PhD, Graduate Committee, **Committee Chair**, Soudabeh Boulori, Computer Science, UWyo, (Expected Graduation Date: Ongoing (TBA)).
- PhD, Graduate Committee, Committee Member, Russell Nathan Todd, Computer Science, UWyo, (Expected Graduation Date: Ongoing (TBA)).
- PhD, Graduate Committee, Committee Member, Milana Wolff, Computer Science, UWyo, (Expected Graduation Date: Ongoing (TBA)).
- PhD, Graduate Committee, Committee Member, Damir Pulatov, Computer Science, UWyo, (Expected Graduation Date: Ongoing (TBA)).
- PhD, Graduate Committee, Committee Member, Haniye Kashgarani, Computer Science, UWyo, (Expected Graduation Date: Ongoing (TBA)).
- PhD, Graduate Committee, Committee Member, Mehdi Nourlahi, Computer Science, UWyo, (Expected Graduation Date: Ongoing (TBA)).
- PhD, Graduate Committee, Committee Member, Rafer Cooley, Computer Science, UWyo, (Graduation Date: Spring 2023).
- PhD, Graduate Committee, Committee Member, Hui Hu, Computer Science, UWyo, (Graduation Date: Spring 2022).

- PhD, Graduate Committee, Committee Member, Shaya Wolf, Computer Science, UWyo, (Graduation Date: Spring 2022).
- PhD, Graduate Committee, Outside Committee Member, Vincent Ampadu, Civil Engineering, UWyo, (Graduation Date: May 2021).
- PhD, Graduate Committee, Outside Committee Member, Mickael Aghajarian, Electrical and Computer Engineering, UWyo, (Graduation Date: May 2021).

Master's Thesis

- MS-Thesis, Graduate Committee Chair, Nathaniel Whitham, Artificial Intelligence, UWyo, (Expected Graduation Date: May 2026).
- MS-Thesis, Graduate Committee Chair, Selma Samet, Computer Science, UWyo, (Expected Graduation Date: May 2026).
- MS-Non Thesis, Graduate Committee Chair, Faith Coslett, Computer Science, UWyo, (Expected Graduation Date: December 2024).
- MS, Graduate Committee, Outside Committee Member, Sarah McCorkle, Atmospheric Science, UWyo, (Graduation Date: July 2021).
- MS, Graduate Committee, Committee Member, Joshua Salon, Computer Science, UWyo, (Graduation Date: December 2020).
- MS, Graduate Committee, Committee Member, Yijun Liu, Computer Science, UWyo, (Graduation Date: May 2020).

Undergraduate Research

- Undergraduate Research Supervision, Shruthika Sundar, Biomedical Engineering, Purdue University, West Lafayette, IN, (Expected Graduation Date: TBD).
- Undergraduate Research Supervision, Zach Nelson, Computer Science, UWyo, (Expected Graduation Date: TBD).
- Undergraduate Research Supervision, Jacob L. Bahr, Computer Science, UWyo, (Expected Graduation Date: TBD).
- Undergraduate Research Supervision, Kyle Lofthus, Computer Science, UWyo, (Graduation Date: Spring 2024).
- Undergraduate Research Supervision, Jacob Benjamin Hendricks, Computer Science, UWyo, (Graduation Date: Spring 2022).
- Undergraduate Research Advising, supervising four REU students' research, Summer 2024.
- Undergraduate Research Advising, supervised three REU students' research, Summer 2022.
- Undergraduate Research Advising, supervised two REU students' research, Summer 2021.
- Student Research Advising, 2021 Talaria Research Program, ATHENA.

3.3 Sabbaticals

None

4 SERVICE

4.1 Professional Service

Grants Proposal Reviewer

- 2 x NSF Reviewer 2024
- NIH Reviewer 2022

- NSF Reviewer 2022
- NSF Reviewer 2021
- NSF Reviewer 2020

Conference/Journal Program Committee

- PC Member, Int. Conference on Web and Social Media (ICWSM 2022)
- PC Member, IEEE International Conference on Multimedia Big Data (IEEE BigMM 2020, 21, 22)
- PC Member, Int. Conference on Pervasive Patterns & Applications (PATTERNS 2020, 2021, 2022)
- PC Member, International Conference on Machine Intelligence and Signal Processing (MISP 2021)

Journal Reviewer

- Reviewer, Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (ACM IMWUT) (since September 2022)
- Reviewer, ACM Transaction of Privacy and Security (ACM TOPS) (since March 2022)
- Reviewer, CCF Transaction of Pervasive Computing and Interaction (TCPI) (since June 2021)
- Reviewer, IET Cyber-Systems and Robotics (since August 2020)
- Reviewer, ACM Digital Threats: Research and Practice (ACM DTRAP) (since March 2020)
- Reviewer, Multimedia Tools and Applications, Springer (since March 2020)
- Reviewer, IEEE Letters of Computer Society (IEEE LOCS) (since January 2020)
- Reviewer, Engineering with Computers, Springer (since January 2020)
- Reviewer, International Journal of ML and Cybernetics (since April 2020)
- Reviewer, Computers and Security, Elsevier (since November 2019)
- Reviewer, IEEE ACCESS (2019 - Present)
- Reviewer, IEEE Transactions on Biometrics, Behavior, and Identity Science (since 2018)
- Reviewer, Neural Computing & Applications, Springer (since November 2016)

Conference Reviewer

- ACM Conference on Human Factors in Computing (ACM CHI) (2023 - Present)
- IEEE Int. Conference on Virtual Reality (IEEE VR) (2022 - Present)
- AAAI Int. Conference on Web and Social Media (AAAI ICWSM) (2021 - Present)
- IEEE Int. Conference on Machine Intelligence and Signal Processing (MISP) (2021 - Present)
- IEEE International Joint Conference On Biometrics (IEEE IJCB) (2020 - Present)
- IEEE International Conference On Multimedia Big Data (IEEE BigMM) (2020 - Present)
- International Conference on Pervasive Patterns and Applications (PATTERNS) (2020 - Present)
- International Conference On Biometrics (ICB) (2019 - Present)

4.2 Department/University Service

- Computer Science Graduate Admissions Committee, Member (Fall 2019-present)
- Computer Science Graduate Curriculum Committee, Member (Fall 2021-present)
- Computer Science Undergraduate Curriculum Committee, Member (Fall 2021-Spring 2022)
- SoC tenure track faculty search committee, Member (Academic Year 2023-24)
- EECS tenure track faculty search committee, Chair (Academic Year 2023-24)
- Director for Digital Innovation, search committee, Member (Fall 2023)
- Transportation Dept. tenure-track faculty search committee, Member (Academic Year 2022-23)
- SoC tenure track faculty search committee, Member (Academic Year 2022-23)
- EECS tenure track faculty search committee, Member (Academic Year 2022-23)

- EECS tenure track faculty search committee, Member (Academic Year 2021-22)
- Computer Science instructional faculty search committee, Member (Academic Year 2021-22)

5 OTHER ACTIVITIES

- **April 2024 - Panel Member, Trans Humanism and Technology** Served as a panel member on an interdisciplinary panel at the University of Wyoming to discuss the topic of Trans Humanism and Technology.
- **October 2023 - Faculty Sponsor, ACM Student Chapter** Supporting as a faculty sponsor the revitalization effort of the ACM student chapter at the University of Wyoming.
- **March 2023 - Session Facilitator, Coming Age of AI, Laramie, WY** - Will be facilitating a session on the upcoming age of AI and education practices as part of the AI discussion series at the University of Wyoming.
- **November 2022 - Invited Talk, Implementing Zero Trust at the Tactical Warfighting Edge, Department of Defence University Consortium, Washington DC, USA** - Presented our collaborative work as a consortium from 15 different universities across the country at DoD University consortium meeting in November 2022 and represented the University of Wyoming. Our collaborative work won the *first place* among all the invited talks.
- **September 2022 - Featured Facilitator, Odd Bedfellows Dialogue Series, Laramie, WY** - The Odd Bedfellows Dialogue Series brings together two professionals from different fields to casually discuss their work. The participants then engage in dialogue and attempt to make Outrageous Connections.
- **2022 Lily Conference - Evidence-based Teaching and Learning, Miami University, Miami, FL** - Presented my work on 'Boosting Cognition via. Digital Community Building while Learning about Intelligent Machines at the Lily conference in November 2022.
- **2022-23 LAMP ELC Community Member, University of Wyoming, Laramie, WY** - Participating in LAMP Educator's Learning Community - Leaving the light on!
- **2022 NETI-1 Workshop, Purdue University, West Lafayette, IN** - Participated in NETI-1: Course Design and Student Engagement workshop organized by National Effective Teaching Institute at Purdue University.
- **2021-22 LAMP Fellow, University of Wyoming, Laramie, WY** - Participated in Learning Actively and Mentoring Program as LAMP 2021-22 Fellow.
- **2020 Invited Talk, Indian Institute of Information Technology (IIITD), New Delhi, India** - Presented our work on offensive and defensive technologies using behavior-based modeling.
- **2020 Invited Talk, Indian Institute of Information Technology (IIITD), New Delhi, India** - Presented our work on offensive and defensive technologies using behavior-based modeling.
- **2020 Invited Talk, Indian Institute of Technology (IIT-K), Kanpur, India** - Presented our work on security leaks and defences in smart wearables.
- **2019 NSF Teaching Workshop, University of California San Diego (UCSD), San Diego, CA** - Participated in NSF New Computer Science Faculty Teaching Workshop.
- **IEEE BTAS'18 Los Angeles, California** - Presented our work on Body-Taps, an authentication system through few Simple taps suitable for constrained screen devices. In this work, we proposed an authentication system where the user have to create a sequence of body taps for authentication.
- **Research Trend in Smart Devices' Security, MITS, Jadan, India** - September 2018 - Gave a talk on recent research trends on smart devices' security.
- **Technical Program Design and Co-Ordinator**, Organized NSF Summer Workshop for Middle

School and High School Students (July 2017)- Spoof-Resistant Smartphone Authentication using Cooperating Wearables.

- **SDPS'17 Birmingham, Alabama** - Presented our work on Analysis of Security Vulnerabilities and Countermeasures of Video Based Side Channels for Smartphone Users.
- **SDPS'17 Birmingham, Alabama** - Gave a talk on applicability analysis of various video based channel attacks on smart devices titled A Closer Look at Video Based Side Channel Attacks on the Smartphone Users' Pin.
- **Biometric Security Seminar, Fall'17**, Syracuse University, Syracuse, NY - Gave a talk on various biometric datasets and open biometric security problems in a seminar course at Syracuse University.
- **Machine Learning in Security Seminar, Spring'17, Syracuse University, Syracuse, NY** - Gave a talk on ensemble methods to solve multi-class classification problem in a seminar course on machine learning at Syracuse University. Specifically, I talked about Error Correcting Output Codes method and discussed various application scenarios.
- **Recent Research Trends in Mobile Phone Security, JNU, New Delhi, India - March 2016** - Gave a talk on recent research trends on mobile phone security. The talk included continuous authentication, and activity recognition problems in smart devices. Also, presented problems on vulnerabilities related to privacy leaks due to side channels.
- **ACM CCS'14 Scottsdale, Arizona** - Presented our work on analysis of user's hand movement to decode the text typed on the mobile phone screen. In this work, we analyzed 200 videos capturing users' hand movement while they type on their smartphone screen.

6 MEDIA HIGHLIGHTS

- **University of Wyoming — News**, UW's Diksha Shukla Receives NSF CAREER Award to Study Human Brain Functions, June 2024. Available online at <https://www.uwyo.edu/news/2024/06/uws-diksha-shukla-receives-nsf-career-award-to-study-human-brain-functions.html>
- **University of Wyoming — Science Initiative Newsletter**, People in Science Initiative, Fall 2022. Available online at http://www.uwyo.edu/science-initiative/_files/newsletters-and-reports/si-newsletter-fall-2022.pdf
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- **Syracuse University — News**, College of Engineering and Computer Science Student Innovation Recognized at 2017 Research Day., May 04, 2017. Available online at <https://news.syr.edu/blog/2017/05/04/college-of-engineering-and-computer-science-student-innovation-recognized-at-2017-research-day/>
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- **TECH WORM**, Hackers using startling new ways to steal your passwords., April 20, 2019. Available online at <https://www.techworm.net/2015/04/hackers-using-startling-new-ways-to-steal-your-passwords.html>

HONORS AND AWARDS:

- July 2019, **Travel Award**, Received travel award of \$1415.00 from University of California at San Diego through NSF to attend New Computer Science Faculty Teaching Workshop.
- March 2017, **Best EECS Research Poster Award at 2017 ECS Research Day**, Received an award of \$250 by Associate Dean of Research and Doctoral Programs, College of Engineering and Sciences, Syracuse University, Syracuse, NY, USA.
- November 2014, **Travel Award**, Received travel award of \$1000.00 from ACM CCS'14 to attend and present our paper in the conference.
- August 2012, **Employee Excellence Award**, Received 'You made a difference' award for 'Client Focused Delivery' at Sapient Technologies.