SAYANTON DIBBO

CONTACT INFORMATION	15 Thayer Drive, ECSC # 214 Department of Computer Science Dartmouth College Hanover, NH 03755	*E-mail:* sayanton.v.dibbo.gr@dartmouth.edu *Phone:* 951 312 4333 *Web-page:* https://sayantondibbo.github.io/ *LinkedIn:* http://www.linkedin.com/svdibbo *Google Scholar:* https://scholar.com/sdibbo

EDUCATION

Dartmouth College   Hanover, NH

Ph.D., Computer Science   Expected Spring 2025
Area: Cybersecurity and ML

University of California, Riverside   Riverside, CA

M.S., Computer Science   Spring 2019
GPA: 3.52/ 4.00

University of Dhaka   Dhaka, Bangladesh

B.Sc., Computer Science & Engineering   August 2016
GPA: 3.88/4.00
(Merit Position: 2nd in a class of **70** students.)

RESEARCH INTERESTS

Security and Privacy, Deep Learning, Authentication, IoT Security, Biometrics, ML Model Transparency, Fairness, and Robustness, Explainable Artificial Intelligence (AI).

RESEARCH EXPERIENCE

Los Alamos National Laboratory (LANL)   Los Alamos, NM
Graduate Research Intern, LLM & Multimodal Modeling   Summer 2024

- Investigate and compare LLMs (e.g., Bert, GPT) and multimodal (e.g., CLIP) model's vulnerabilities.

- An empirical evaluation of the *robustness* of different convolutional and transformer-based networks in unimodal and multimodal setups.

- Analyzing adversarial attack transferability in cross-modal setups, i.e., unimodal model to multimodal models.

Los Alamos National Laboratory (LANL)   Los Alamos, NM
Graduate Research Intern, AI Assurance & Cybersecurity   Summer 2023

- Design Robust Deep Learning Audio classification models to mitigate audio adversarial attacks.

- Generate audio features from continuous audio data and implement/design robust deep neural network models to prevent adversarial attacks against privacy-preserving audio models.

- Implement novel techniques to prevent privacy attacks against Computer Vision models by analyzing in-depth privacy attacks against the neural networks.

The Financial Industry Regulatory Authority (FINRA)   Boston, MA
Graduate Research Intern, AI/ML & Cybersecurity   Summer 2022

- Leverage Pre-trained models (NLP) and design fine-tuned Deep Learning models on financial market data (text) to analyze security threats (e.g., backdoor, evasion, inference) that might leak sensitive data and disrupt market integrity.

- Implement a framework to identify possible data privacy threats to the Deep Learning model and develop robust and effective defenses to safeguard and protect market data (financial institutions) and maintain financial market integrity.

Dartmouth College   Hanover, NH
Research Assistant & Cybersecurity Fellow, CS Department   Fall 2020-Present

- Investigating how the *generalizability, memorization,* and *robustness* of Large Language Models (LLMs) can aid in the development of effective defenses against adversarial attacks.

- Exploring the concept of *disparate vulnerability* in the context of *Fairness* in Model Inversion Attribute Inference privacy attack and designing an ML model to predict disparate vulnerability based on features computed only from training data instances.

- Designing Model Inversion Attribute Inference Attacks to ML model handling tabular data, that can outperform existing attacks to infer sensitive attributes of ML model training data.

- Developing phone-based implicit user authentication model. The goal is to design a framework based on implicit continuous biometrics to run the ML model on phones to authenticate IoT wearable users.

- Analyzing and visualizing college students' phone call data to identify potential contexts and geo-temporal patterns of student phone call behavior.

- Analyzing cough data and designing cough models to identify cough vs. other sounds also investigate the impact of noise on generalized cough models.

- Collecting diabetic patients' data from insulin pumps, continuous glucose monitors (CGM), and mobile devices to design ML models predicting blood glucose levels.

Dartmouth College   Hanover, NH
Research Intern, CS Department   Fall 2019 - Summer 2020

- Developed smartphone application (android) to collect diabetic patients' sensor data, including accelerometer, GPS, microphone, etc., data. This app also incorporates diabetic users' continuous glucose monitor (CGM) time-series data records from users' CGM portal with their permission. Finally, apply ML models and statistical methods to analyze factors affecting Diabetes.

- Worked to (*develop digital tools for improved self-management of Diabetes*) with the aim to leverage smartphones and wearable technologies for identifying trends or behavioral patterns associated with diabetes as well as developed data-driven ML models to ensure better self-management.

Instituto Superior Técnico   Lisbon, Portugal
Participant, 10th Lisbon ML School (LxMLS)   July 21-29, 2020

- Learning and implementing different aspects of ML: classifiers, tools, optimization techniques, gradient descent, L-BFGS algorithm, loss function, batch normalization, regularization, etc on real-life datasets.

Cornell, Maryland, Max Planck   Saarbrucken, Germany
Student Participant, Pre-Doctoral Research School, MPI-SWS   August 6-11, 2019

- Learning emerging research topics in Computer Science and experiencing cutting-edge research in computer science including computer systems/architecture, optimization, machine learning, deep learning model decision property, formal methods, AI, and data visualization.

University of California, Riverside Riverside, CA

Graduate Research Assistant, CSE Department Spring 2018 - Spring 2019

- Design and Implement the K-Nearest Neighbor-based predictive model to predict six major Human Activities - three static (sitting, lying, and standing) and three dynamics (walking, walking down, and walking upstairs) as well as postural transitions (e.g., stand-to-sit, sit-to-lie, lie-to-sit, stand-to-lie) from the accelerometer and gyroscope data of Human Activity Recognition (HAR) public data set of the UCI Machine Learning Repository, collected by the smartphone sensors of the users.

- Analyzed different feature selection techniques and incorporated the Genetic and Simulated Annealing algorithms to select the most important features in an efficient way to improve the overall prediction accuracy of human activities compared to the existing techniques used so far.

University of Dhaka Dhaka, Bangladesh

Undergraduate Researcher, CSE Department Fall 2014 - Summer 2017

- Designed an improved and efficient division technique with reduced time complexity and introduced a new, compact tree-based quantum divider design algorithm to reduce the circuit depth and achieve better performance compared to the existing divider design techniques in area, power, depth, delay, and # of input lines.

- Developed an app for diabetic patients to facilitate their daily living by providing instructions (e.g., diet, exercise, and notification during emergency cases) according to their sugar level.

RELEVANT PROJECTS

Vulnerability of LLM & Multimodal Models Los Alamos, NM

Research Project (Individual Project) Summer 2024

- Compare adversarial vulnerabilities of unimodal (LLMs) and multimodal models
- Assess transferability of attacks in cross-modal setups

Sparse-Guard: Sparse Coding based defense against privacy attacks Los Alamos, NM

Research Project (Individual Project) Summer 2023

- Incorporate Sparse Coding layer on neural network architecture
- Analyze the effectiveness of sparse coding layers against privacy attacks

Robust Audio Classification Modeling Los Alamos, NM

Research Project (Individual Project) Summer 2023

- Design ML models preventing adversarial attacks
- Introduce neuroscience-based techniques to design robust audio classifiers

Large Language Model (LLM) Generalizability Hanover, NH

Research Project (Individual Project) Winter-Spring 2023

- Leverage pre-trained large language models to analyze their robustness and generalizability

- Fine-tune language models for specific tasks to test their generalizability and memorization properties

Security for AI   Boston, MA
Research and Development Project (Team Project)   Summer 2022

- Design efficient data privacy and security threats (NLP) to Deep Learning Models
- Detect and mitigate Deep Learning Model security threats

Disparate Vulnerability in ML Model Inversion Attack   Hanover, NH
Research Project (Individual)   Winter 2022, Spring 2022

- Design model inversion attack against ML Models with the least adversarial capabilities
- Introduce disparity prediction model to analyze the *fairness* of ML models under adversarial and privacy attacks

Model Inversion Attribute Inference Attack (MIAI) on Tabular Data   Hanover, NH
Research Project (Individual)   Fall 2021

- Introduce novel black-box MIAI attack against ML Models
- Analyze efficacy of proposed attack and distributional privacy leakage

Biometric Authentication   Hanover, NH
Development Project (Team Project)   Winter 2021

- Design ML and DL models for user authentication
- Developing authentication models based on heart rate, breathing, and gait features

Phone Call Trend   Hanover, NH
Data Analytics Project (Team Project)   Winter 2021

- Predicting Geo-Temporal pattern of students' phone call behavior.
- Analyzing social and contextual impacts on communication pattern

HealthMine   Hanover, NH
Development Project (Team Project)   Spring 2020

- Design an Android app for collecting user sensor data.
- Develop a way to redirect to the 'Dexcom' CGM app from our own app to collect user blood glucose data from the CGM device after user authorization.
- Conducting user study to get feedback

Digital SMD   Hanover, NH
Research Intern Project (Individual)   Fall 2019

- Collecting and Analyzing Insulin Pump, Glucose Monitor Data.
- Applying ML models to detect elements affecting Diabetes self-management.
- Recommending diabetic patients based on the identified patterns.

Human Activity Recognition   Riverside, CA
Research Project (Team Project of two)   Spring 2018

- Predicting human activities based on smartphone sensor data set.

- Constructing data mining models to classify human activities.
- Demonstrating different feature selection techniques to test prediction accuracy.

Efficient Path Profiling in LLVM   Riverside, CA
Software Project (Team Project of two)   Spring 2018

- Implemented the Edge Profiling of any arbitrary code and constructed the Ball-Larus Path Profiling algorithm.
- Instrumenting the execution frequencies of different paths in any arbitrary code using the LLVM compiler infrastructure.

Mining Interesting Patterns from TSDB using Resampling   Riverside, CA
Research Project (Individual)   Fall 2017

- Proposed a new and effective approach to mine all types of interesting periodic patterns without having any predefined period value or type from the *Time Series Database* (TSDB).
- Detecting all types of periodic patterns, particularly by skipping intermediate events using the proposed algorithm.

Place Identification Using Augmented Reality   Dhaka, Bangladesh
Software Project (Team Project of ten)   Fall 2015

- Developed a system or application that facilitates users to find information about an unknown place.
- Identifying places by capturing the image of the place while directing the phone to that place.

Diabetic Monitor App   Dhaka, Bangladesh
Software Project (Team Project of ten)   Fall 2015

- Performed survey to collect data regarding diabetic patients.
- Developed an app to assist diabetic patients in getting information about foods, exercise, and other tips based on their sugar level.

Bank Management System   Dhaka, Bangladesh
Software Project (Individual)   Fall 2014

- Implemented customer accounts, deposits, and payment modules to ensure a secure and reliable banking system using JAVA.
- Ensured better management of data regarding customers bank account, transactions and history.

Cell-Phone Operated Land Rover   Dhaka, Bangladesh
Hardware Project (Team Project of three)   Spring 2014

- Applied phone calls to control a remote robot based on button press.
- Implemented using dual tone multiple frequency (DTMF) technique.

Result Processing System   Dhaka, Bangladesh
Software Project (Team Project of three)   Fall 2013

- Designed a secured and reliable result processing system for the university.

- Demonstrated the most efficient and reliable software design technique to implement the software.

Automatic Traffic Light Control   Dhaka, Bangladesh
Hardware Project (Team Project of three)   Spring 2013

- Implement a traffic light control system to control traffic lights consistently and accurately to maintain the proper flow of traffic.
- Used microcontroller and circuit chips to design the system with timer IC to ensure accuracy of traffic control.

PEER REVIEWED
PUBLICATIONS

1. **Dibbo, S. V.**, Breuer, A., Moore, J. S., and Teti, M. A., "Improving Robustness to Model Inversion Attacks via Sparse Coding Architectures," *The 18th European Conference on Computer Vision (ECCV 2024)* (**Acceptance rate 2395/8585 = 27.9%**) (Pre-print https://arxiv.org/abs/2403.14772).

2. Vhaduri, S., **Dibbo, S. V.**, Muratyan, A., and Cheung, W. "mWIoTAuth: Multi-wearable data-driven implicit IoT authentication." *Future Generation Computer Systems, Elsevier* (FGCS), May 2024. [**Impact Factor: 7.5**]

3. Lien, CW., Vhaduri, S., **Dibbo, S. V.**, and Shaheed, M. "Explaining vulnerabilities of heart rate biometric models securing IoT wearables." *Machine Learning with Applications, Elsevier* (MLA), May 2024.

4. **Dibbo, S. V.**, Moore, J. S., Kenyon, G. T., and Teti, M. A., "LCANets++: Robust Audio Classification using Multi-layer Neural Networks with Lateral Competitions," *IEEE International Conference on Acoustics, Speech and Signal Processing Workshop (ICASSPW 2024)* (Pre-print https://arxiv.org/abs/2308.12882).

5. Vhaduri, S., **Dibbo, S. V.**, and Cheung, W. "Implicit IoT Authentication Using On-Phone ANN Models and Breathing Data." *Elsevier Internet of Things* (IoT), Nov 2023. [**Impact Factor: 5.9**]

6. **Dibbo, S. V.**, Mansingh S., Rego J., Kenyon G., Moore J., and Teti M., "How Can Neuroscience Help Us Build More Robust Deep Neural Networks?," *2nd AdvML Frontiers workshop at 40th International Conference On Machine Learning (ICML 2023)*, Honolulu, Hawaii, July 2023, Available.

7. **Dibbo, S. V.**, "SoK: Model Inversion Attack Landscape: Taxonomy, Threat Models, and Defenses," *36th IEEE Computer Security Foundations Symposium (IEEE CSF)*, Dubrovnik, Croatia, July 2023, pp. 408-425 (**Acceptance rate 38/187 = 20.3%**).

8. Vhaduri, S., **Dibbo, S. V.**, and Kim, Y., "Environment Knowledge-Driven Generic Models to Detect Coughs from Audio Recordings," *IEEE Open Journal of Engineering in Medicine and Biology (IEEE OJEMB)*, April 2023. [**Impact Factor: 5.8**]

9. Vhaduri, S., Cheung, W., and **Dibbo, S. V.**, "Bag of On-Phone ANNs to Secure IoT Objects Using Wearable and Smartphone Biometrics," *Transactions on Dependable and Secure Computing (IEEE TDSC)*, April 2023. [**Impact Factor: 6.8**] .

10. **Dibbo, S. V.**, Chung D. L., and Mehnaz S., "Model Inversion Attack with Least Information and an In-depth Analysis of its Disparate Vulnerability," *First*

IEEE Conference on Secure and Trustworthy Machine Learning (IEEE SaTML), Raleigh, USA (**Acceptance rate 40/152 = 26.3%**, *Similar to NeurIPS, ICML acceptance rate).

11. Mehnaz S., **Dibbo, S. V.**, Kabir E., Li N., and Bertino E., "Are Your Sensitive Attributes Private? Novel Model Inversion Attribute Inference Attacks on Classification Models," *31st USENIX Security Symposium* (USENIX Security'22), Boston, USA. (**Acceptance rate 256/1492=17.2%**, *Highly Contributed as a Leading Student Author).

12. Vhaduri, S., **Dibbo, S. V.**, and Chen C., "Predicting a user's demographic identity from leaked samples of health-tracking wearables and understanding associated risks." *2022 IEEE 10th International Conference on Healthcare Informatics (ICHI)*, Rochester, MN, USA, June 2022, pp. 309-318.

13. Vhaduri, S., **Dibbo, S. V.**, and Cheung, W. "HIAuth: A Hierarchical Implicit Authentication System for IoT Wearables Using Multiple Biometrics." *IEEE Access*, volume 9, pp. 116395 – 116406, August 2021. [**Impact Factor: 3.9**]

14. Vhaduri, S., **Dibbo, S. V.**, and Kim, Y. "Deriving College Students' Phone Call Patterns to Improve Student Life." *IEEE Access Journal*, 2021. [**Impact Factor: 3.9**]

15. **Dibbo, S. V.**, Kim, Y., Vhaduri, S. "Effect of Noise on Generic Cough Models." *2021 IEEE 17th International Conference on Wearable and Implantable Body Sensor Networks (BSN)*, Virtual, July 2021, pp. 1-4.

16. ††**Dibbo, S. V.**, †† Vhaduri, S., Kim, Y., and C., and Pollabauer. "Visualizing college students' geo-temporal context-varying significant phone call patterns." *2021 IEEE 9th International Conference on Healthcare Informatics (ICHI)*, Victoria, Canada, August 2021, pp. 381-385.

17. Vhaduri, S., **Dibbo, S. V.**, Chen, C., and Pollabauer, C. "Predicting Next Phone-Call Duration: A Pathway To Promote Mental Health At the Age of Stay Home and Lockdown." *2021 IEEE 45th Annual Computers, Software, and Applications Conference (COMPSAC)* Virtual, July 2021, pp. 804-811.

18. **Dibbo, S. V.**, Cheung, W., and Vhaduri, S. "On-Phone CNN Model-based Implicit Authentication to Secure IoT Wearables." *EAI International Conference on Safety and Security in IoT* (EAI SaSeIoT), Cyberspace, April 2021. (* Best Community-voted Presentation)

19. Muratyan, A., Cheung, W., **Dibbo, S. V.**, and Vhaduri, S. "Opportunistic Multi-Modal User Authentication for Health-Tracking IoT Wearables." *EAI International Conference on Safety and Security in IoT* (EAI SaSeIoT), Cyberspace, April 2021. (* Best Community-voted Presentation)

20. Morton S., Li R., **Dibbo, S. V.**, and Prioleau T., "Data-Driven Insights on Behavioral Factors that Affect Diabetes Management," *42nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society* (IEEE EMBC), Montreal, QC, Canada, July 2020.

21. Babu, H. M. H., Jamal, L., **Dibbo, S. V.**, and Biswas A. K., "Area and Delay Efficient Design of a Quantum Bit String Comparator," *IEEE Computer Society Annual Symposium on VLSI* (IEEE ISVLSI), Bochum, Germany, July 2017.

22. **Dibbo, S. V.**, Babu, H. M. H., and Jamal, L., "An Efficient Design Technique of a Quantum Divider Circuit," *IEEE International Symposium on Circuits & Systems* (IEEE ISCAS), Montreal, QC, Canada, May 2016.

POSTER PRESENTATIONS	1. **Dibbo, S. V.**, Moore, J. S., Kenyon, G. T., and Teti, M. A., "LCANets++: Robust Audio Classification using Multi-layer Neural Networks with Lateral Competitions," *ACM International Conference on Neuromorphic Systems (ACM ICONS)*, Santa Fe, NM, August 2023.
DOCTORIAL CONSORTIUM	1. **Dibbo, S. V.**, Breuer, A., Moore, J. S., and Teti, M. A., "Improving Robustness to Model Inversion Attacks via Sparse Coding Architectures," *The 18th European Conference on Computer Vision (ECCV 2024)*, Milano, Italy, October 2024.
INVITED TALKS	1. **Dibbo, S. V.**, "Robust Audio Classification", *Center for Nonlinear Studies (CNLS), Los Alamos National Laboratory (LANL)*, Los Alamos, NM, August 2023.

HONORS & AWARDS	

- **Inaugural Dartmouth Cybersecurity Research Cluster Pre-Doctoral Research Fellow**, prestigious Cybersecurity Research Fellowship by Dartmouth College   January 2024

- **National Science Foundation (NSF) Secure and Trustworthy Cyberspace (SaTC) Aspiring PI** Award to attend the PI Workshop organized by the NSF SaTC program   May 2023

- **Best Community-voted Presentation Award**, awarded by the EAI (SaSeIoT 2021) community for the best paper presentations   April 2021

- **Dartmouth Fellow**, Guarini Graduate School, Dartmouth College   September 2020

- **Dean's Award (Gold Medal)**, Faculty of Engineering & Technology, University of Dhaka (one of the top 2 institutions in Bangladesh) for securing **Second** merit position in the B.Sc. Examination in Computer Science & Engineering, held in Dec 2015 (awarded to top 3 students)   May 2018

- **Dean's Distinguished Fellow**, Bourns College of Engineering, University of California, Riverside   September 2017

- **Perfect Attendance Award**, Notre Dame College, Dhaka (best institution in Bangladesh) for maintaining 100% attendance during the two consecutive academic years of College (awarded to only 100% attendance holders)   August 2011

- **First Place Winner**, Notre Dame College, Dhaka, for securing the **First** merit position among the **1.7 million** secondary school certificate holders, participated in the competitive admission test across a country with **163 million** population (awarded to the top-most student)   July 2009

TEACHING & MENTORING EXPERIENCE	**Dartmouth College, Hanover**	Hanover, NH
	Graduate Teaching Assistant	Fall 2020-present
	Department of Computer Science	

- COSC 51: Computer Architecture
  (*class size: 50*)   Fall 23
  Tools: Ed Discussion, Canvas

- COSC 89: Deep learning generalization and robustness
  (*class size: 20*)   Spring 23
  Tools: Piazza, Canvas

- COSC 78: Deep Learning
  (*class size: 60*)   Winter 23
  Tools: Piazza, Canvas

- COSC 58: Operating Systems
  (*class size: 60, 58*)   Winter 22, Fall 22
  Tools: Gitlab, Slack, Canvas

- COSC 59: Principles of Programming Languages
  (*class size: 40*)   Summer 21
  Tools: Slack, Codechef competition

- COSC 55: Security and Privacy
  (*class size: 35, 6*)   Winter 21, Fall 21
  Tools: Slack, Canvas

- COSC 10: Problem Solving using Object Oriented Programming
  (*class size: 110-120*)   Fall 20, Spring 21, Spring 22
  Tools: Canvas, Slack

- Undergraduate Student Mentoring Experience:

  - Dae Lim Chung (currently an MS student in CS at Columbia University)
  - Darley Sackitey (currently a PhD student in CS at Georgia Institute of Technology)
  - Arihant Chadda (senior UG)
  - Sylvester E. Coch (senior UG)

University of California, Riverside   Riverside, CA
Graduate Teaching Assistant   Fall 2018-Winter 2019
Department of Computer Science & Engineering

- CS 61: Machine Organization and Assembly Language Programming
  (*class size: 110*)   Winter 19
  Tools: Github, Piazza, Gradescope

- CS 152: Compiler Design
  (*class size: 30*)   Fall 18
  Tools: Piazza, Blackboard

University of Dhaka   Dhaka, Bangladesh
Undergraduate Mentor   Fall 2015
Department of Computer Science & Engineering

- Mentor and Section Leader:

  - Riaz Uddin (currently Maintenance Engineer, Ministry of Bangladesh)

- Research Collaborator & Coordinator:

  - Mubin Ul Haque (currently PhD Student in CS at the University of Adelaide)
  - Md. Solaiman Mia (currently Lecturer in CS at Green University of Bangladesh)

GRANTS & FELLOWSHIPS	

- NSF SaTC Aspiring PI Workshop attending travel grant ($2000) Summer 23
- Summer Research Fellowship, Center for Non-Linear Studies (CNLS), Los Alamos National Lab ($15000) Summer 23
- Dartmouth Graduate Student Council Conference Travel Grant ($500, $550) Fall 22, Winter 23
- Dartmouth College Fellowship ($30k/yr) Fall 2020-2025
- Higher Study Travel Grant, Bangladesh-Sweden Trust Fund, Ministry of Economic Relations, Bangladesh ($800) Fall 2018
- Dean's Distinguished Fellowship, Bourns College of Engineering, University of California, Riverside ($52,000 for 1 year) Fall 2017
- Dhaka University Alumni Association (DUAA) Scholarship, University of Dhaka ($400) Fall 2015
- Shamshul Haque Trust Fund Fellowship, University of Dhaka ($1200) Fall 2015
- Mitsubishi UFJ Foundation Scholarship, Mitsubishi Corporation, Tokyo, Japan ($3000) Fall 2015
- Higher Secondary School Scholarship, Education Board Dhaka ($500) Fall 2012
- Full-free Studentship, Notre Dame College, Dhaka ($400) Fall 2010
- Secondary School Scholarship, Education Board Dhaka ($300) Spring 2010
- The Scholar's Forum Scholarship, Scholars Forum, Dhaka ($200) Fall 2008
- Full-free Studentship, St. Gregory's High School & College ($400) Fall 2007
- Junior School Scholarship, Education Board Dhaka ($500) Spring 2007
- Gregorian Scholarship, St. Gregory's High School & College ($200) Fall 2007
- Primary School Scholarship, Education Board Dhaka ($100) Fall 2004

LEADERSHIP & SERVICES	

- Doctorial Consortium Presentation, ECCV Conference, Milano, Italy *2024*
- Research Poster Presentation, *International Conference on Neuromorphic Systems (ACM ICONS)*, Santa Fe, NM *2023*
- PC (Program Committee), *USENIX Security* Artifact Evaluation *2022-2023*
- Represent Dartmouth College Graduate Student Council (GSC) on new student orientation/the activities fair *Fall 2021*
- Co-chair of *Committee for Addressing Racism and Equity (CARE)*, Dartmouth College Graduate Student Council (GSC) *2021-2022*
- Participant of *Graduate Student Leadership Training*, Dartmouth College *2021*
- Volunteer at *ACM Ubicomp Conference* at London, UK *2019*
- Mentor at *BioHack 2019*, Hackathon of Biomedical Engineering Society Chapter, UC Riverside *2019*

	• Participant of *'Leadership in Action Program'* at UC Riverside	*2018*
	• Volunteer, *'Tobacco Free Environment Campaign'* at UC Riverside	*2018*
	• Volunteer, *Martin Luther King Day* at UC Riverside	*2018*
	• keynote speaker in *'Fresher's Reception Ceremony'* at Notre Dame College	*2009*

JOURNAL & CONFERENCE PAPER REVIEWER	1. Women in Computer Vision Conference, ECCV	*2024*
	2. Neural Networks Journal, Elsevier	*2024*
	3. Computers and Security Journal, Elsevier	*2024*
	4. Internet of Things (IoT) Journal, Elsevier	*2023*
	5. IEEE Transactions on Neural Networks and Learning Systems	*2023*
	6. USENIX Security Symposium	*2021*
	7. NSysS Conference	*2021*
	8. Annual Computer Security Applications Conference (ACSAC)	*2021*
	9. IEEE Access	*2018*
	10. IEEE Transactions on Nanotechnology (TNANO)	*2018*
	11. Journal of Multiple-Valued Logic & Soft Computing	*2017*
	12. IEEE Computer Society Annual Symposium on VLSI (ISVLSI)	*2017*
	13. Springer Quantum Information Processing Journal	*2016*
	14. IEEE Region 10 Conference (TENCON)	*2016*
	15. IEEE International Symposium on Circuits & Systems (ISCAS) Conference	*2016*

PROFESSIONAL DEVELOPMENT	• CITI Human Study Certification Program	*2024*
	• Asian CHI Symposium 2020, Honolulu, Hawaii	*2020*
	• Cornell, Maryland, Max Planck Research School, Germany	*2019*
	• *Pedagogical* development program 'Apprentice Teaching', UC Riverside	*2018*
	• 'PhD Pivot Workshop' at UC Riverside	*2018*
	• 'UC Ethical Values and Conducts Training'	*2018*
	• 'UC Cyber Security Awareness Training'	*2018*
	• Certification program on 'Online Plagiarism Test'	*2015*
	• Participant, 'Mathematics Olympiad'	*2010*
	• 'Inter College Debating Competition'	*2009-10*
	• Organizer of 'School Science Fair'	*2008*

Skills   Programming Skills

- C/C++, Python, R, Java, SQL, Spark, Tableau, Weka, Scikit-learn, TensorFlow, Pytorch

- Android Programming, Assembly Language, Shell Programming

Software Skills

- MS Word, Excel, Powerpoint, Photoshop, Graphic Design, JIRA

- Oracle, SQL Server, DB2, MongoDB, MySQL, Matlab, SWI-Prolog, Arduino, Android Studio, OpenGL, OpenCV

Extra
Curriculum &
Co-Curriculum
Activities

- Participated in the Inter-University Programming Contests — *2012 - 2013*
- Received Perfect Attendance (100%) Award in College — *2010*
- Received Perfect Attendance (100%) Award in School — *2008*
- Won the runners-up prize in the Inter School Basketball Tournament — *2007*
- Participated & got the 3rd prize in the 'Design & Drawing Competition' — *2005*
- Won the 1st prize in the 'Poem Recitation Competition' — *2004*