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Employment

- **Program Director for MS in Cyber Security:** (08/2018 – Present)
  College of Engineering, University of Toledo
- **Cyber Security Faculty Fellow:** (01/2018 – Present)
  Division of Technology & Advanced Solutions (DTAS), University of Toledo
- **Associate Professor:** (08/2014 – Present)
  Computer Science and Engineering Technology Program, College of Engineering, University of Toledo
- **Assistant Professor:** (08/2008 – 07/2014)
  Computer Science and Engineering Technology Program, College of Engineering, University of Toledo
- **Research Assistant:** (05/2002 – 05/2008)
  Secure Systems Lab, Computer Science Department, Stony Brook University
- **Software Engineer:** (04/2001 – 08/2001)
  NetDao Inc., Shanghai, China
- **Software Engineer Intern:** (09/1997 – 09/1998)
  CSK Inc., Shanghai, China

Education

- **Ph.D. Computer Science, Stony Brook University, 05/2008**
  Advisor: Prof. R. Sekar
- **M.S. Computer Science, Stony Brook University, 05/2004**
- **M. E. Computer Science and Engineering, Tongji University, 03/2001**
- **B. E. Computer Science and Engineering, Tongji University, 07/1998**

Research Experience

My main research area is computer and network security, with focuses on malware defense, security policy development, security testbeds development and enhancing security on critical systems including smart grids, cloud computing, software defined networks, unmanned aerial vehicle, transportation information systems, and healthcare information systems.

Cyber Security Faculty Fellow, DTAS, University of Toledo   **01/2018 – Present**
- Designing and developing UT Cyber Range simulation software.
- Providing expertise to DTAS for improving cyber security across campus.
- Envisioning state of art cyber security research based on DTAS infrastructure.

Associate Professor at CSET, College of Engineering, University of Toledo   **08/2008 – Present**
Director of Advanced Computing Research Lab (http://acrl.eng.utoledo.edu/) 08/2011– Present
- Enhancing the OTA updates in connected vehicles.
- Enhancing the security of smart home network.
- Developing effective detection approaches for DoS attacks against SDN network.
- Studying the security for unmanned aerial vehicle (UAV) network.
- Developing practical hardware based approaches to safeguard the smart grid system.
- Developing practical approaches to safeguard cloud computing system.

- Studying and enhancing RBAC model (Role-Based Access Control).

Research Assistant at Secure Systems Lab, Stony Brook University   05/2002 – 05/2008
- Developed practical information flow based policies and framework to safeguard computer system integrity against malware.
- Designed and developed a tool to secure the software installation process.
- Developed Safe Execution Environments to isolate executions of untrusted applications.
- Developed a platform to provide cost-effective virtual networks for security based experiments.
- Designed and developed a hybrid system call interception framework to extend functionalities of operating systems.

Research Assistant at Network Lab, Tongji University   09/1999 – 03/2001
- Designed and developed a telenet testing system.
- Designed and developed a Linux VPN gateway system based on IPSec protocols.

Teaching Experience

Associate Professor at CSET, University of Toledo   08/2008 – Present
- Redeveloped CSET 3150 (Advanced Programming, Introduction to Algorithms), CSET 3600 (Software Engineering), CSET 4250 (Comparative Programming Languages) and CSET 4850/EECS 6980-150 (Computer and Network Security).
- Deployed VNetLab (virtual network testbed) and developed LightVN (a lightweight virtual network testbed) to support hands-on projects for CSET 4850/EECS 6980-150.
- Instructor of both undergraduate and graduate level courses, University of Toledo, fall 2008 – spring 2019.
    - Undergraduate level courses (in both on-campus and online formats): EET 2420 (Electrical Instrumentation Laboratory), CSET 3150 (Introduction to Algorithms), CSET 3200 (Web Services), CSET 3600 (Software Engineering), CSET 4100 (Server-side Web Programming), CSET 4250 (Comparative Programming Languages) and CSET 4850 (Computer and Network Security).
    - Graduate level courses: GNEN 6980/EECS 6980/8980 (Network Security), EECS 5920 (Projects), EECS 6960 (Master's Graduate Research And Thesis), EECS 6990/8990 (Independent Study), and EECS 8960 (Dissertation).
- Research Advisor (Co-advisor) of 40 graduate students (PhD: 6, MS: 34), University of Toledo, fall 2008 – spring 2019.
- Faculty Advisor of 17 senior capstone design team projects, University of Toledo, fall 2008 – spring 2019.

Teaching Assistant, Stony Brook University   01/2002 – 01/2008
- Mentor of 6 graduate students, Secure Systems Lab, Stony Brook University, 2004 – 2008.
- Course Lab Administrator, CSE 408 (Network Security) and CSE 508 (Advanced Network Security), Stony Brook University, 2004.
- Teaching Assistant, CSE 533 (Network Programming), Stony Brook University, 2002.

Student Advisor, Tongji University   09/1999 – 03/2001
- Mentor of 70 undergraduate students in CSE'97 undergraduate class.

Book Chapters, Journal and Conference Publications

1. **Application of Deep Learning as a Pattern Recognition Technique in Information Security**, Safia Rahmat, Quamar Niyaz, Ahmad Y Javaid, and *Weiqing Sun*, In Advances in Pattern Recognition Research, Eds: Thomas Lu, Senior Researcher & Tien-Hsin Chao, Principal Researcher, NASA/JPL/Caltech, NOVA Science Publishers. Nov. 2018.

2. **Security Enhancement of Over-the-Air Update for Connected Vehicles**, Akshay Chawan, *Weiqing Sun*, Ahmad Javaid, and Umesh Gurav, 2018 International Workshop on Security and Privacy Assurance Technologies for Emerging Networks (SPATEN 2018), Tianjin, China, June 20-22, 2018.

3. **A Web-based Lightweight Testbed for Supporting Network Security Hands-on Labs**, Wei Liu, Quamar Niyaz, *Weiqing Sun*, and Ahmad Y Javaid, 18th Annual IEEE International Conference On Electro Information Technology (EIT 2018), Rochester, Michigan, USA, May 3-5, 2018.

4. **A Deep Learning based DDoS Detection in Software-defined Networking (SDN)**, Quamar Niyaz, *Weiqing Sun*, and Ahmad Javaid, In EAI Endorsed Transactions on Security and Safety, 17(12): e2, Dec. 2017.

5. **Efficient Isolation Enabled Role-Based Access Control for Database Systems**, Mohammad Rahat Helal, *Weiqing Sun*, and Ahmad Y Javaid, In the 2017 International Conference on Security and Management (SAM 2017), Las Vegas, USA, July 17-20, 2017.

6. **Analysis of Global Positioning System-based attacks and a novel Global Positioning System spoofing detection/mitigation algorithm for unmanned aerial vehicle simulation**, Javaid, Ahmad Y., Farha Jahan, and *Weiqing Sun*, Simulation, Vol. 93, no. 5 (May 2017): 427-441.

7. **Normal and Anomalous Traffic Flow Pattern Analysis for Organizational Networks**, Safia Rahmat, Quamar Niyaz, Ahmad Y Javaid, and *Weiqing Sun*, In 2017 IEEE 30th Canadian Conference on Electrical and Computer Engineering (CCECE), Windsor, ON, April 30-May 3, 2017.

8. **Distributed Network Traffic Feature Extraction for a Real-time IDS**, Ahmad M Karimi, Quamar Niyaz, *Weiqing Sun*, Ahmad Javaid, and Vijay K Devabhaktuni, In 17th IEEE Electro/Information Technology (EIT 2016), Grand Forks, North Dakota, May 2016.

9. **Efficient Spam Detection across Online Social Networks**, Hailu Xu, *Weiqing Sun*, and Ahmad Javaid, In IEEE International Conference on Big Data Analysis (ICBDA), Hangzhou, China, March 2016.

10. **A Deep Learning Approach for Network Intrusion Detection System**, Quamar Niyaz, *Weiqing Sun*, Ahmad Y Javaid, and Mansoor Alam, 9th EAI International Conference on Bio-inspired Information and Communications Technologies, New York City, NY, Dec. 2015.

11. **GNSSim: An open source GNSS/GPS framework for Unmanned Aerial Vehicular Network Simulation**, Farha Jahan, Ahmad Y. Javaid, *Weiqing Sun*, Mansoor Alam, In EAI Endorsed Transactions on Mobile Communication and Application, 15(6): e2, Aug. 2015.

12. **LightVN: A Light-Weight Testbed for Network and Security Experiments**, Quamar Niyaz, *Weiqing Sun*, Rao Xu, and Mansoor Alam, 12th International Conference on Information Technology: New Generations (ITNG 2015), Las Vegas, Nevada, Apr. 2015.

13. **Impact on SDN Powered Network Services under Adversarial Attacks**, Quamar Niyaz, *Weiqing Sun*, and Mansoor Alam, 2015 International Conference on Soft Computing and Software Engineering (SCSE'15), Berkeley, CA, Mar. 2015.

14. **Single and Multiple UAV Cyber-Attack Simulation and Performance Evaluation**, Ahmad Javaid, *Weiqing Sun*, and Mansoor Alam, EAI Endorsed Transactions on Scalable Information Systems, 15(4): e4, Feb. 2015.

15. **Security Enhancement of Secure USB Debugging in Android System**, Mingzhe Xu, *Weiqing Sun*, and Mansoor Alam, 12th Annual IEEE Consumer Communications & Networking Conference (CCNC 2015), Las Vegas, Nevada, January 2015.

16. **UAVNet Simulation in UAVSim: A performance evaluation and enhancement**, Ahmad Javaid, *Weiqing Sun*, and Mansoor Alam, 9th International Conference on Testbeds and Research Infrastructures for the Development of Networks & Communities (TridentCom 2014), Guangzhou, China, May 2014.

17. **A Smart Home Network Simulation Testbed for Cybersecurity Experimentation**, Jizhou Tong, *Weiqing Sun*, and Lingfeng Wang, 9th International Conference on Testbeds and Research Infrastructures for the Development of Networks & Communities (TridentCom 2014), Guangzhou, China, May 2014.

18. **Impact of UPFC on Power System Reliability Considering its Cyber Vulnerability**, Yingmeng Xiang, Yichi Zhang, Lingfeng Wang, and *Weiqing Sun*, 2014 IEEE PES T&D Conference and Exposition, Chicago, IL, USA, April 2014.

19. **UAVSim: A Simulation Testbed for Unmanned Aerial Vehicle Network Cyber Security Analysis**, Ahmad Javaid, Weiqing Sun, and Mansoor Alam, published in Proceedings of IEEE GLOBECOM Workshop Wi-UAV 2013 (5th International Workshop on Wireless Networking and Control for Unmanned Autonomous Vehicles), Atlanta, GA, December 2013.

20. **A Flexible Role-Based Delegation Model with Dynamic Delegation Role Structure**, Zidong Liu, *Weiqing Sun*, and Mansoor Alam, The 2013 International Conference on Security and Management (SAM'13), Las Vegas, USA, July 2013.

21. **A Preliminary Study of Power System Reliability Evaluation Considering Cyber Attack Effects**, Yichi Zhang, Lingfeng Wang, and *Weiqing Sun*, 2013 IEEE PES General Meeting, Vancouver, BC, Canada, July 2013.

22. **Placement of Primary-Secondary Trust Nodes in Smart Grid Communication Network**, Yichi Zhang, *Weiqing Sun*, and Lingfeng Wang, 2013 IEEE PES General Meeting, Vancouver, BC, Canada, July 2013.

23. **An Information Flow Security Model for Home Area Network of Smart Grid**, Jizhou Tong, *Weiqing Sun*, and Lingfeng Wang, 3rd IEEE International Conference on Cyber Technology in Automation, Control and Intelligent Systems (IEEE-CYBER 2013), Nanjing, China, May 2013.

24. **Investigating the Impact of Cyber Attacks on Power System Reliability**, Yichi Zhang, Lingfeng Wang, and *Weiqing Sun*, 3rd IEEE International Conference on Cyber Technology in Automation, Control and Intelligent Systems (IEEE-CYBER 2013), Nanjing, China, May 2013.

25. **Trust System Design Optimization in Smart Grid Network Infrastructure**, Yichi Zhang, Lingfeng Wang, and *Weiqing Sun*, IEEE Transactions on Smart Grid, pp. 184-195, vol. 4, no. 1, March 2013.

26. **Efficient Trust Node Aware Routing in ZigBee Communication Network of Smart Grid**, Yichi Zhang, *Weiqing Sun*, Lingfeng Wang, The 10th International Power and Energy Conference (IPEC 2012), Ho Chi Minh City, Vietnam, December 2012.

27. **Cyber Security Threat Analysis and Modeling of an Unmanned Aerial Vehicle System**, Ahmad Javaid, *Weiqing Sun*, Vijay Devabhaktuni, and Mansoor Alam, 2012 IEEE International Conference on Technologies for Homeland Security (HST' 12), Waltham, MA, November 2012.

28. **A Neural Network Based Distributed Intrusion Detection System on Cloud Platform**, Zhe Li, *Weiqing Sun*, and Lingfeng Wang, 2012 2nd IEEE International Conference on Cloud Computing and Intelligence Systems (CCIS 2012), Hangzhou, China, Oct. 30-Nov. 1, 2012.

29. **FPGA Based Key Generation Technique for Anti-Counterfeiting Methods using Physically Unclonable Functions and Artificial Intelligence**, Swetha Pappala, Mohammed Niamat, and *Weiqing Sun*, 22nd International Conference on Field Programmable Logic and Applications, FPL'12, Oslo, Norway, Aug. 29-31, 2012.

30. **FPGA Based Device Specific Key Generation Method using Physically Unclonable Functions and Neural Networks**, Swetha Pappala, Mohammed Niamat, and *Weiqing Sun*, 55th Int'l Midwest Symposium on Circuits & System, MWSCAS'12, Aug. 2012.

31. **Location and Communication Routing Optimization of Trust Nodes in Smart Grid Network Infrastructure**, Yichi Zhang, *Weiqing Sun*, and Lingfeng Wang, 2012 IEEE Power & Energy Society General Meeting, San Diego, California, July 2012.

32. **FPGA Based Physically Unclonable Functions and Neural Networks for Preventing Counterfeiting Problems**, Swetha Pappala, Mohammed Niamat, and *Weiqing Sun*, 18th International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'12) WORLDCOMP'12, July 2012.

33. **A Real-Time Testbed for Routing Network**, Kang Yao, *Weiqing Sun*, Mansoor Alam, Mingzhe Xu, and Vijay Devabhaktuni, 8th International ICST Conference on Testbeds and Research Infrastructures for the Development of Networks and Communities (TridentCom 2012), Thessaloniki, Greece, June 2012.

34. **FPGA based Trustworthy Authentication Technique using Physically Unclonable Functions and Artificial Intelligence**, Swetha Pappala, Mohammed Niamat, and *Weiqing Sun*, IEEE International Symposium on Hardware-Oriented Security and Trust (HOST 2012), San Francisco, California, June 2012.

35. **Fault-tolerant Optimal Routing of Trust Nodes in Smart Grid Communications,** Yichi Zhang, *Weiqing Sun*, and Lingfeng Wang, 2nd IEEE International Conference on Cyber Technology in Automation, Control and Intelligent Systems (IEEE-CYBER 2012), Bangkok, Thailand, May 2012.

36. **A Healthcare Information System with Augmented Access Controls,** Nagajyothi Gunti, *Weiqing Sun*, Mingzhe Xu, Zidong Liu, Mohammed Niamat and Mansoor Alam, 14th Asia-Pacific Web Conference (APWeb 2012), Kunming, China, Apr. 2012.

37. **A Multi-Level Communication Architecture of Smart Grid Based on Congestion Aware Wireless Mesh Network,** Yichi Zhang, *Weiqing Sun*, Lingfeng Wang, Hong Wang, Robert C. Green II, and Mansoor Alam, 2011 North American Power Symposium (NAPS 2011), Boston, MA, Aug. 4-6, 2011.

38. **I-RBAC: Isolation Enabled Role-Based Access Control**, Nagajyothi Gunti, *Weiqing Sun* and Mohammed Niamat, Ninth Annual Conference on Privacy, Security and Trust (PST 2011), Montreal, Quebec, Canada, July 19-21, 2011.

39. **Distributed Intrusion Detection System in A Multi-Layer Network Architecture of Smart Grids**, Yichi Zhang, Lingfeng Wang, *Weiqing Sun*, Robert C. Green II, and Mansoor Alam, IEEE Transactions on Smart Grid, Special issue on Cyber, Physical and System Security for Smart Grid, pp. 796-808, vol. 2, no. 4, July 2011.

40. **Artificial Immune System based Intrusion Detection in A Distributed Hierarchical Network Architecture of Smart Grid**, Yichi Zhang, Lingfeng Wang, *Weiqing Sun*, Robert C. Green II, and Mansoor Alam, 2011 IEEE Power & Energy Society General Meeting, Detroit, Michigan, July 2011. (selected for a 3-hour combo session presentation)

41. **Collabra: A Xen Hypervisor based Collaborative Intrusion Detection System**, Saketh Bharadwaja, *Weiqing Sun*, Mohammed Niamat and Fangyang Shen, 8th International Conference on Information Technology: New Generations (ITNG 2011), Las Vegas, Nevada, Apr. 2011.

42. **Integrating Computer Science and Engineering technology to implement an ABET accredited Program**, Daniel Solarek, Hong Wang, Allen Rioux, William Evans and *Weiqing Sun*, 2010 ASEE Annual Conference & Exposition, Louisville, Kentucky, June 2010.

43. **Experiences from a Time-Condensed Computer Security Class**, *Weiqing Sun*, 7th International Conference on Information Technology: New Generations (ITNG 2010), Las Vegas, Nevada, Apr. 2010.

44. **Alcatraz: An Isolated Environment for Experimenting with Untrusted Software**, Zhenkai Liang, *Weiqing Sun*, R. Sekar and V.N. Venkatakrishnan, in ACM Transactions on Information and System Security (TISSEC), Vol. 12, No. 3, Jan. 2009.

45. **V-NetLab: An Approach for Realizing Logically Isolated Networks for Security Experiments**, *Weiqing Sun*, Varun Katta, Kumar Krishna and R. Sekar, in Workshop on Cyber Security Experimentation and Test (CSET 08), San Jose, CA, July 2008.

46. **Expanding Malware Defense by Securing Software Installations**, *Weiqing Sun*, R. Sekar, Zhenkai Liang and V.N. Venkatakrishnan, in 5th Conference on Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA 08), Paris, France, July 2008.

47. **Practical Proactive Integrity Preservation: A Basis for Malware Defense**, *Weiqing Sun*, R. Sekar, Gaurav Poothia and Tejas Karandikar, in 2008 IEEE Symposium on Security and Privacy (S&P 2008), Oakland, CA, May 2008.

48. **One-way Isolation: An Effective Approach for Realizing Safe Execution Environments**, *Weiqing Sun*, Zhenkai Liang, R. Sekar and V.N. Venkatakrishnan, in 12th Annual Network and Distributed System Security Symposium (NDSS 05), San Diego, California, Feb. 2005.

49. **V-NetLab: A Cost-Effective Platform to Support Course Projects in Computer Security**, Kumar Krishna, *Weiqing Sun*, Pratik Rana, Tianning Li and R. Sekar, in 9th Annual Colloquium for Information Systems Security Education (CISSE 05), Atlanta, GA, Jun. 2005.
50. **The Design and Implementation of A Linux-based VPN Server**, *Weiqing Sun*, and Yiqun Zhao, Computer Engineering and Applications, Vol. 38, No. 1, pp. 174-176, 2002, China.
51. **A Study on the VPN-Solution to Supply Chain Enterprises Based on Internet/Intranet,** Haihang Wang, Chengxiang Tan, *Weiqing Sun*, and Yiqun Zhao, Application Research of Computers, Vol. 19, No. 4, pp. 17-20, 2002, China.
52. **The State of the Art and Developing Trend for the Research and Applications of VPN Technology**, Haihang Wang, Chengxiang Tan, *Weiqing Sun*, and Yiqun Zhao, Computer Engineering and Applications, Vol. 37, No. 23, pp. 14-16,168, 2001, China.
53. **VPN Tunneling Technology,** *Weiqing Sun*, and Yiqun Zhao, Application Research of Computers, Vol. 17, No. 8, pp. 55-57, 2000, China.
54. **The Telenet Test-system and Its Security,** Tao Tao, Yiqun Zhao, Ting Wang, and *Weiqing Sun*, Computer Engineering, Vol. 25, No. 9, pp. 77-79, 1999, China.

Research Talks

- **Security Enhancement of Over-the-Air Update for Connected Vehicles**, Akshay Chawan, *Weiqing Sun*, Ahmad Javaid, and Umesh Gurav, 2018 International Workshop on Security and Privacy Assurance Technologies for Emerging Networks (SPATEN 2018), Tianjin, China, June 20-22, 2018.
- Panelist for Speakers Series on **Cybersecurity and Autonomous Vehicles**, University of Toledo, April 13, 2018.
- **A Cost-Effective Simulation Testbed for Unmanned Aerial Vehicle Network Cyber Attack Analysis**, *Weiqing Sun*, 2015 Safe and Secure Systems and Software Symposium (S5), Dayton, Ohio, June 2015.
- **Security Enhancement of Secure USB Debugging in Android System**, Mingzhe Xu, *Weiqing Sun*, and Mansoor Alam, 12th Annual IEEE Consumer Communications & Networking Conference (CCNC 2015), Las Vegas, Nevada, January 2015.
- **Security Enhancement of Android USB Debugging Mode**, *Weiqing Sun*, EECS Graduate Seminar, University of Toledo, Nov. 2014.
- **A Simulation Testbed for Unmanned Aerial Vehicle Network Cyber Attack Analysis**, *Weiqing Sun*, EECS Graduate Seminar, University of Toledo, Oct. 2013.
- **V-NetLab: Managing Virtual Machine Networks on the Workstation**, *Weiqing Sun*, ISA Toledo Section Meeting, Jan. 2013.
- **Development and Deployment of Distributed IDS on Smart Grid Infrastructure**, *Weiqing Sun*, EECS Graduate Seminar, University of Toledo, Oct. 2012.
- **A Real-Time Testbed for Routing Network**, Kang Yao, *Weiqing Sun*, Mansoor Alam, Mingzhe Xu, and Vijay Devabhaktuni, 8th International ICST Conference on Testbeds and Research Infrastructures for the Development of Networks and Communities (TridentCom 2012), Thessaloniki, Greece, June 2012.
- **Isolation Enabled Role-Based Access Control Model**, *Weiqing Sun*, EECS Graduate Seminar, University of Toledo, Sep. 2011.
- **I-RBAC: Isolation Enabled Role-Based Access Control**, Nagajyothi Gunti, *Weiqing Sun* and Mohammed Niamat, Ninth Annual Conference on Privacy, Security and Trust (PST 2011), Montreal, Quebec, Canada, July 19-21, 2011.
- **Safeguard Computer Systems Security Using Practical Information Flow Based Techniques**, *Weiqing Sun*, EECS Graduate Seminar, University of Toledo, Oct. 2010.
- **Experiences from a Time-Condensed Computer Security Class**, *Weiqing Sun*, 7th International Conference on Information Technology: New Generations (ITNG 2010), Las Vegas, Nevada, Apr. 2010.

- **V-NetLab: An Approach for Realizing Logically Isolated Networks for Security Experiments**, in Workshop on Cyber Security Experimentation and Test (CSET 08), July 2008.
- **Practical Proactive Integrity Preservation: A Basis for Malware Defense**, in 2008 IEEE Symposium on Security and Privacy (S&P 2008), May 2008.
- **Practical Information Flow Based Techniques to Safeguard Host Integrity**, Ph.D. Dissertation Defense, Department of Computer Science, Stony Brook University, May 2008.
- **Safe Execution Environment for Experimentation with Unsafe Software**, in IBM Security and Privacy Day, IBM Watson Research Center, Nov. 2006. (Poster)
- **Safe Execution Environment for Experimentation with Unsafe Software**, in Center for Information Protection: Organizational Workshop, Stony Brook University, July 2006. (Poster)
- **One-way Isolation: An Effective Approach for Realizing Safe Execution Environments**, in ONR review, Arlington, VA, Sep. 2005.
- **One-way Isolation: An Effective Approach for Realizing Safe Execution Environments**, in Graduate Research Conference, Department of Computer Science, Stony Brook University, Apr. 2005.
- **One-way Isolation: An Effective Approach for Realizing Safe Execution Environments**, in 12th Annual Network and Distributed System Security Symposium (NDSS 05), Feb. 2005.
- **Safe Execution Environment for Experimentation with Unsafe Software**, in International Conference on Wireless & Information Technologies (CEWIT) 2004, Woodbury, NY, Sep. 2004. (Poster)
- **Damage Recovery from Malicious Code and Operator Errors**, Ph.D. Research Proficiency Exam, Department of Computer Science, Stony Brook University, Feb. 2004.

Grants
- Google Cloud Platform Education Grant, 2017-2018.
- Development of Tradeoff Analysis and Data Integration Tools, Ohio Department of Transportation, Co-PI, $220,858, Jan. 2015 ~ Aug. 2017.
- UT Provost Office Research/Travel Grant, $750, Jan. 2015.
- Development of Transportation Asset Management Decision Support Tools, Ohio Department of Transportation, Co-PI, $347, 683, July 2013 ~ June 2016.
- Developing a UAV Network Security Testbed for Cyber Security Research, Summer Research Grants, PI (single investigator), University of Toledo, $10, 233, May 2013 ~ Dec. 2013.
- Isolation Enabled Role-Based Access Control Model, Summer Research Grants, PI (single investigator), University of Toledo, $10,132, May 2011 ~ Dec. 2011.
- Travel Grant to 2008 IEEE Symposium on Security and Privacy, May 2008.

Current Graduate Students
- *Shahida A. Malik*, Ph.D. (dissertation advisor), Research topic: Wireless network security. Expected graduation: Fall 2022.
- *Farha Jahan*, Ph.D. (dissertation advisor), Research topic: Autonomous systems security. Expected graduation: Fall 2021.
- *Medha Pujari*, M.S. (thesis advisor), Research topic: hybrid security testbed. Expected graduation: Summer 2019.
- *Junhui Xiao*, M.S. (thesis advisor), Research topic: Cyber range game development. Expected graduation: fall 2019.
- *Shriya Vyamajala*, M.S. (project advisor), Research topic: Social network security. Expected graduation: Spring 2019.
- *Shengyuan Wen*, M.S. (project advisor), Research topic: Social network spam detection. Expected graduation: Spring 2020.

- *Priyanka Dwibedi*, M.S. (project advisor), Research topic: LightVN security enhancements. Expected graduation: Spring 2020.
- *Smirti Dwibedi*, M.S. (project advisor), Research topic: Machine learning and security. Expected graduation: Spring 2020.

Previous Graduate Students
Ph.D. Students
- *Quamar Niyaz*, Ph.D. (dissertation advisor), Dissertation: **Design and Implementation of a Deep Learning based Intrusion Detection System in Software-Defined Networking Environment**, July 20, 2017.
- *Jizhou Tong*, Ph.D. (dissertation advisor), Dissertation: **Design and Implementation of the Smart Grid Home Area Network Security Testbed**, January 26, 2017.
- *Yichi Zhang*, Ph.D. (dissertation co-advisor), Dissertation: **Cybersecurity and Reliability of Electric Power Grids in an Interdependent Cyber-Physical Environment**, July 23, 2015.
- *Ahmad Javaid*, Ph.D. (dissertation advisor), Dissertation: **Cyber Security Threat Analysis and Attack Simulation for Unmanned Aerial Vehicle Network**, June 25, 2015.

M.S. Students
- *Akshay Ajay Chawan*, M.S. (thesis advisor), Thesis: **Security Enhancement of Over-The-Air Update for Connected Vehicles**, June 2018.
- *Jhaghapratha Narayanamoorthy*, M.S. (project advisor), Project: Development of a Mobile Platform based on LightVN Testbed. May 2018.
- *Mohammad Rahat Helal*, M.S. (thesis advisor), Thesis: **Efficient Isolation Enabled Role-Based Access Control for Database Systems**, summer 2017.
- *Bo Fu*, M.S. (project advisor), Project: **Implementation of the Battery Model Based on the Lithium Battery and Attack Simulations in the HANSim**, spring 2017.
- *Aditi Upadhyay*, M.S. (project advisor), Project: **Detecting Similar Spam across Online Social Networks**, spring 2017.
- *Yadi Wen*, M.S. (project advisor), Project: **Three-Dimensional Bio-Graphic Website for Biophysicists**, summer 2016.
- *Hailu Xu*, M.S. (thesis advisor), Thesis: **Efficient Spam Detection across Online Social Networks**, summer 2016.
- *Ahmad Maroof Karimi*, M.S. (thesis advisor), Thesis: **Distributed Machine Learning Based Intrusion Detection System**, summer 2016.
- *Wei Liu*, M.S. (thesis advisor), Thesis: **A Light-Weight, Flexible, and Web-based Testbed for Computer & Network Security Experiment**, summer 2016.
- *Shuo Zhang*, M.S. (project advisor), Project: **Programming Language Performance Test**, summer 2016.
- *Sai Kumar Naini*, M.S. (project advisor), Project: **Automatic Network Data Backup Tool**, summer 2016.
- *Thilak Therala*, M.S. (project advisor), Project: **Simulating DDOS Attack Based on HANSim Testbed**, spring 2016.
- *Swapnil Jadhav*, M.S. (project advisor), Project: **Implementation of Security in Vehicle using Security Algorithms**, spring 2016.
- *Ajay Babu Akula*, M.S. (project advisor), Project: **Website Vulnerabilities Attacks**, spring 2016.
- *Farha Jahan*, M.S. (thesis advisor), Thesis: **Implementation of GNSS-GPS Navigation and its Attacks in UAVSim Testbed**, April 9, 2015.
- *Rao Xu*, M.S. (project advisor), Project: **A Web-Based Management and User Access Interface of Light-Weighted Virtual Network Testbed**, Spring 2015.

- *Kang Liu*, M.S. (project advisor), Project: **Simulation of Smart Home Household Appliances based on Matlab/Simulink**, Spring 2015.
- *Mingzhe Xu*, M.S. (thesis advisor), Thesis: **Security Enhancement of Secure USB Debugging in Android System**, November 13, 2014.
- *Nan Li*, M.S. (project advisor), Project: **A User-friendly Cloud-computing Management Interface**, Spring 2014.
- *Teja Bandaru*, M.S. (project advisor), Project: **An Encryption Scheme to Enhance Data Security in the Cloud**, Fall 2013.
- *Zidong Liu*, M.S. (thesis advisor), Thesis: **A Flexible Role-Based Delegation Model and Its Application in Healthcare Information System**, June 2013.
- *Zhe Li*, M.S. (thesis co-advisor), Thesis: **A Neural Network Based Distributed Intrusion Detection System on Cloud Platform**, Mar. 2013.
- *Benjamin Vickers*, M.S. (project advisor), Project: **Hosted PBX Infrastructure using Cisco Unified Communications Manager and Cisco UCS Server Platform**, May 2012.
- *Swetha Pappala*, M.S. (thesis co-advisor), Thesis: **Device Specific Key Generation Technique for Anti-Counterfeiting Methods Using FPGA Based Physically Unclonable Functions and Artificial Intelligence**, Apr. 2012.
- *Kang Yao*, M.S. (thesis advisor), Thesis: **ARTNet: A Real-Time Testbed for Routing Network**, Mar. 2012.
- *Nagajyothi Gunti*, M.S. (thesis advisor), Thesis: **I-RBAC: Isolation Enabled Role-Based Access Control Model and Its Applications**, Oct. 2011.
- *Ratna Sireesha Singamsetty*, M.S. (thesis co-advisor), Thesis: **Detection of Malicious Nodes in Mobile Adhoc Networks**, Oct. 2011.
- *Yichi Zhang*, M.S. (thesis co-advisor), Thesis**: Distributed Intrusion Detection System in A Multi-Layer Network Architecture of Smart Grids**, Aug. 2011.

Graduate Student Thesis/Project Committee Member
- Ph.D. dissertation defense committee member
  - *Colin Elkin*, Dissertation: Development of Computational Algorithms for Manned and Unmanned Flight Safety, Nov. 5, 2018.
  - *Fathi Amsaad*, Dissertation: A Trusted and Efficient Security Approach for the Detection of Hardware Trojans and Authentication of FPGA-based Systems Nov. 9, 2017.
  - *Abdulwasa Barnawi*, Dissertation: Hybrid PV/ Wind Power System for Different System Design Incorporating Battery Storage and Considering the Stochastic Nature of Renewable Resources Using Renewable Fraction Technique (RFT): Generation Units Planning, Demand Response and Reliability Evaluation, July 29, 2016.
  - *Muslim Mustapa*, Dissertation: PUF based FPGAs for Hardware Security and Trust, July 7, 2015.
  - *Weiling Wang*, Dissertation: An Innovative Synthesis Method of Graphene/Polymer Nanocomposite, Nov. 25, 2014.
  - *Christopher Otieno Adika*, Dissertation: Automated Demand Response Approaches to Household Energy Management in a Smart Grid Environment, Mar. 2014.
  - *Peng Wang*, Dissertation: A Comprehensive Technique for Majority/Minority Logic Synthesis with Applications in Nanotechnology, Dec. 2013.
  - *Rui Yang*, Dissertation: Development of Integrated Building Control Systems for Energy and Comfort Management in Intelligent Buildings, Nov. 2013.

- *Zhu Wang*, Dissertation: Multi-agent Control for Integrated Smart Building and Micro-grid Systems, June 2013.
- *Robert C. Green II*, Dissertation: Novel Computational Methods for the Reliability Evaluation of Composite Power Systems using Computational Intelligence and High Performance Computing Techniques, Aug. 2012.
- Ph.D. dissertation proposal defense committee member
  - *Musbah Abdulgader*, Dissertation Proposal: Bio Inspired Evolutionary Fuzzy System for Data Classification, Nov. 30, 2018.
  - *Majed Albogame*, Dissertation Proposal: Enhanced MIMO and TCM-APSK in PTS-OFDMA Wireless System and its Application, Nov. 1, 2018.
  - *Tauheed Khan Mohd*, Dissertation Proposal: Decision-based Multimodal Data Fusion for Controlling Robotic Arm using EMG and Speech, Oct. 16, 2018.
  - *Colin Elkin*, Dissertation Proposal: Development of Computational Algorithms for Manned and Unmanned Flight Safety, Sep. 14, 2018.
  - *Mohammad Faridul Haque Siddiqui*, Dissertation Proposal: Multi-modal emotion recognition through the fusion of Infra-Red and visible images using Deep Learning, May 23, 2018.
  - *Abdulwasa Barnawi*, Dissertation Proposal: Hybrid PV/ Wind Power Systems Incorporating Battery Storage and Considering the Stochastic Nature of Renewable Resources, July 23, 2015.
  - *Yibo Li*, Dissertation Proposal: Study of Switching Mechanism, Performance, and Integration of Low-TEmperature ZnO Based RRAM Devices, April 29, 2015.
  - *Wenchao Lu*, Dissertation Proposal: Self-Compliance Current Limited Transition Metal Oxide Based ReRAM Devices and Applications, April 14, 2015.
  - *Wenbo Chen*, Dissertation Proposal: Transition Metal Oxide Based Resistive Random Access Memory Devices and Applications, April 29, 2015.
  - *Yichi Zhang*, Dissertation Proposal: Trust System Design Optimization in Smart Grid Network Infrastructure, July 2014.
  - *Muslim Mustapa*, Dissertation Proposal: PUF based FPGAs for Hardware Security and Trust, July 2014.
  - *Weiling Wang*, Dissertation Proposal: An Innovation Synthesis Method of Graphene/Polymer Nanocomposite, Apr. 2014.
  - *Christopher Otieno Adika*, Dissertation Proposal: Autonomous Appliance Scheduling for Household Energy Management, Nov. 2013.
  - *Rui Yang*, Dissertation Proposal: Development of Integrated Building Control Systems for Energy and Comfort Management in Intelligent Buildings, Mar. 2013.
  - *Zhu Wang*, Dissertation Proposal: Multi-agent Control for Integrated Smart Building and Micro-grid Systems, May 2012.
  - *Robert C. Green II*, Dissertation Proposal: Probabilistic Reliability Evaluation of Power Systems Based on Intelligent State Space Pruning: Focusing on High Performance Metaheuristics, May 2011.
- M.S. thesis defense committee member
  - *Sharad Kumar*, Thesis: Analysis of Machine Learning Modeling Attacks on Ring-Oscillator based Hardware Security, Nov. 6, 2018
  - *Md Tanzin Farhat*, Thesis: An Artificial Neural Network Based Security Approach of Signal Verification in Cognitive Radio Network, Aug. 2, 2018
  - *Safia Rahmat*, Thesis: A Hybrid Network Traffic-Based Malware Detection Approach for Android and Traditional Networked Systems, May 23, 2018
  - *Merl Creps*, Thesis: A Supervised Machine Learning Approach Using Object-Oriented Programming Principles, Apr. 25, 2018
  - *Muhtadi Choudhury*, Thesis: An analysis of a novel, area-efficient and stage configurable ROPUF, July 11, 2017

- *Tamzidul Hoque*, Thesis: Ring Oscillator based Hardware Trojan detection, April 30, 2015.
- *Swetha Gujja*, Thesis: Temperature Variation Effects on Asynchronous PUF Design using FPGAs, Dec. 4, 2014.
- *Boming Nie*, Thesis: Calculation of Energy Consumption by Plug-in Hybrid Electric Vehicles in a City Based on MATSIM Simulation Software, Nov. 24, 2014.
- *Nuwan Rajika Kumarasiri*, Thesis: Development of Novel Algorithms for Localization in Wireless Sensor Networks, Nov. 4, 2014.
- *Kavya Vittala*, Thesis: Interconnect Modeling and Lifetime Failure Detection in FPGAs using Delay Faults, July 2014.
- *Hussein S. Al-Olimat*, Thesis: Optimizing Cloudlet Scheduling and Wireless Sensor Localization using Computational Intelligence Techniques, June 2014.
- *Srujana Adusumilli*, Thesis: Development of Statistical Learning Techniques for INS and GPS Data Fusion, Apr. 2014.
- *Wanyun Zhong*, Thesis: Chilled Water Storage for Effective Energy Management in Smart Buildings, March 2014
- *Xiaohui Song*, Thesis: FPGA Implementation of a Support Vector Machine based Classification System and its Potential Application in Smart Grid, Aug. 2013.
- *Priyanka Gadde*, Thesis: A BIST Architecture for Testing LUTs in a Virtex-4 FPGA, July 2013.
- *Roshan Silwal*, Thesis: Asynchronous Physical Unclonable Function using FPGA-based Sef-Timed Ring, May 2013.
- *Ernest Ansu-Gyeabour*, Thesis: Community-based Optimal Scheduling of Smart Home Appliances Incorporating Occupancy Error, Mar. 2013.
- *Victor-Juan Webb*, Thesis: Design of a 380 V/24 V DC Micro-Grid for Residential DC Distribution, Nov. 2012.
- *Jibo Zhao*, Thesis: An Efficient Wide-Speed Direct Torque Control Based on Fuzzy Logic Technique, Nov. 2012.
- *Sravani Kristen*, Thesis: Optimization of Built-In Self Test Circuitry for the SoC Embedded Cores, Apr. 2011.
- *Haoyue Li*, Thesis: Wi-Fi Data Transmission Employing Microcontroller and Wi-Fi CompactFlash Card, Nov. 2010.
- M.S. research project committee member
  - *Mahbubur Rahman*, Project: Household Energy Management with the Integration of the Distributed Energy Resources and Short-term Forecasting, summer 2015.
  - *Tauheed Khan Mohd*, Project: Multimodal Mathematical Input through Static Meaning to Syntax Binding, summer 2015.
  - *Rajasekhar Komirshetty*, Project: A New Buck-Boost Converter Topology for Adjustable-Speed BLDC Motor Driver, spring 2015.
  - *Akash Achanta*, Project: Multiple Database Manager, spring 2015.
  - *Agastya Kakarla*, Project: Reactive Power compensation utilizing RES with interconnection to the Grid system, spring 2015.
  - *Sumanth Yada*, Project: BLDC motor performance analysis using PFC zeta converter in hybrid electrical vehicle applications, fall 2014.
  - *Hemanth Vajje*, Project: Stand Alone Hybrid Power Generation Systems in Radial Distribution Grid System, fall 2014.
  - *Mohammed Atifuddin Ansari*, Project: Optimal Design of a PV-Wind Hybrid Power System using Integer Programming, fall 2014.
  - *Seshasai Pavan Kumar Mantripragada*, Project: Threats to Cloud Computing and Their Implications, May 2014.

- *Sailesh Jakkamsetti*, Project: Enhanced Dynamic Performance of Wind Turbines in Power Grid Uisng STATCOM, May 2014.
- *Anuroopareddy Vanteru*, Project: Opinion Mining and Sentiment Analysis, May 2014.
- *Christopher Lemons*, Project: OpenStack – An Open Source, Scalable, Cloud Computing Software, May 2013.
- *Srikanth Komirishetty*, Project: Modeling and Simulation of SPMC Based Cycloconverter, May 2013.
- *Asma Khan*, Project: Multi-Layered Intrusion Detection System for Cyber Security of Smart Grid, June 2012.
- *Yuan Jing*, Project: Intelligent Buildings Control Design, May 2012.
- *Nikilesh Kopparthi*, Project: Agent based control of a Micro Grid, May 2012.
- *Sasikala Sreerama*, Project: Wind Diesel Hybrid Power Systems, Dec. 2011.
- *Aaron Myers*, Project: Analysis of Faults and Error Reduction in a Middleware Software System, May 2010.

Undergraduate Senior Capstone Project Advisees
- CodeWeGo, *Carla Marzari, Zachary Podbielniak, Rita Ablordeppey, and Jacob Perkins,* fall 2018
- Ransomeware Defense Simulator, *Alex Compora, Benjamin Schafer, and Eric Wright*, fall 2018
- RescU Drone, *Yossef Zegeye, Moody Melebari, Jeffrey Powell, Arlyn Davis Jr, Haben Ayalew, and Mohammed Aldakhil*, spring 2018.
- The Smart Panty, *Cameron Brown, Travis Chase, Robert Lindsey, Kavon Murden and Michael Seemann*, fall 2015.
- Android Card Suite, *Devan Tilly, Joseph Varnes, Matthew Chapman, Zachary Gledhill and Josh Miller*, spring 2015.
- Quickseat, *Zachary Ladwig, Theodora Junkins and Kurt Nissen*, spring 2015.
- Gymtrackr, *Andrew Jones, Adam Servis, Kodie Glosser and Greg Bute*, spring 2015.
- Student Response Systems, *Fikret Buyukkomurcu, Xiang Pan, David Pugh, Ryan Rapini, Diego Rasgado and Rodrigo Vego*, spring 2014.
- A Healthcare Information System with Improved Access, *Kyle Dannemiller, Rob Harbaugh and Kevin Gardner*, spring 2013.
- V-NetLab: Managing Virtual Machine Networks on the Workstation, *Jon Kamper, Jeff Myers, Vivek Patel and David Stovicek*, fall 2012.
- Distributed System Platform, *Mingzhe Xu and Ziyan Zhao*, spring 2011.
- V-NetLab, *Erik Boyer, Chris Indoe and Jeff Kobe*, spring 2011.
- D.R.E.A.M – Data Replication, Extraction and Management, *Djogo Amadje, Andrew Lechlak and David Tardich*, spring 2011.
- VNET Platform, *John Holub, Chris Koehnke and Zainab Yousef*, spring 2010.
- Virtual Personal Trainer, *Jameel Aftab, Ani Agadzhanyan, Alec Byrne, Eric Dancy, Troy Fulkert, Andrew Murphy and Sean Nestor*, spring 2010.
- Shopping Cart Screen, *Adel Al Akeel, Hassan Alabkary, Sultan Alali, Mohammed Alawad, Eisa Almohammad and Mohammed Alrajhi*, fall 2009.
- Supernodal Approach to IT Asset Management in Secure Environments, *Nick Fraker and Katrina Schudel*, fall 2009.

University Service
- Technology Takes the Wheel Planning Committee, College of Engineering, University of Toledo, spring 2018-present.
- UT Pan Collegiate Task Force on Cyber Security and Big Data Analytics, fall 2017-summer 2018.
- UT Cyber Security advisory committee member, spring 2015-spring 2017.

- College of Engineering Strategic Planning Graduate Committee Workgroup, fall 2017-spring 2018.
- Department personnel committee (DPC) chair, fall 2017-summer 2018.
- Department personnel committee (DPC) member, fall 2015-summer 2017.
- ET Chairman search committee member, summer 2018-present.
- ET Department Lab Coordinator search committee member, fall 2017.
- Faculty search committee member for EE/CSE visiting assistant professor position, fall 2017.
- Faculty search committee member for EE position, fall 2015.
- Faculty search committee member for CSE position, fall 2014 - spring 2015.
- Faculty search committee member for EE position, fall 2014 - spring 2015.
- Faculty search committee member for CSET position, spring/summer 2010.
- Department open houses to welcome new students, spring 2009 – spring 2018.
- ABET accreditations (TAC and CAC) for CSET/IT programs, fall 2008, fall 2011 and fall 2017.

Professional Service

- DriveOhio Working Group on Data, Analytics, and Security, September 2018-present.
- Editorial board member, International Journal of Computer and Software Engineering, 2016-present.
- Session Chair, Track on Security, Privacy and Content Protection, 12th Annual IEEE Consumer Communications & Networking Conference (CCNC 2015), Las Vegas, Nevada, January 2015.
- Chair, Special Track on Smart Grid Security, International Conference on Information Technology: New Generations (ITNG), 2014.
- Program Committee Member, 2nd Annual International Conference on Information System and Artificial Intelligence (ISAI2017).
- Program Committee Member, The International Conference on Artificial Intelligence and Computer Engineering (AICE2017).
- Program Committee Member, International Conference on Health Information Science, 2013-2018.
- Program Committee Member, International Symposium on Networking and Wireless Communications, 2011, 2012.
- Program Committee Member, International Conference on Information Technology: New Generations (ITNG), Track on High-Performance Computing Architectures, 2012-2015.
- Session Chair, 41st ACM Technical Symposium on Computer Science Education (SIGCSE), 2010.
- Grant reviewer, NSF Experimental Program to Stimulate Competitive Research (EPSCoR), Mar. 2018.
- Grant reviewer, NSF Experimental Program to Stimulate Competitive Research (EPSCoR), Apr. 2017.
- Grant reviewer, US - Netherlands Privacy Cyber Security programme, Sep. 2017.
- Reviewer, Mastering AngularJS for .NET Developers, ISBN: 139781783553983, PACKT publishing, April 2015.
- Reviewer, IEEE Access, Oct. 2018.
- Reviewer, Jordanian Journal of Computers and Information Technology, Sep. 2018.
- Reviewer, IEEE Transactions on Cloud Computing, Sep. 2018.
- Reviewer, International Journal of Network Management, Apr. 2018.
- Reviewer, IEEE Transactions on Dependable and Secure Computing, Mar. 2018.
- Reviewer, IEEE Control Systems Letters, Nov. 2017.
- Reviewer, Journal of Information Security and Applications, 2017.
- Reviewer, IEEE Communication Magazine, 2017.
- Reviewer, International Journal of Communication Systems, Dec. 2016.
- Reviewer, Frontiers of Information Technology & Electronic Engineering, Oct. 2016.
- Reviewer, Computer Networks, 2016.
- Reviewer, IEEE Transactions on Automatic Control, 2015.
- Reviewer, IEEE Transaction on Industrial Electronics, 2016.

- Reviewer, Journal of Vehicle Communications, 2016.
- Reviewer, ACM Computing Reviews, 2014.
- Reviewer, IEEE Transactions on Smart Grid. 2011-2018
- Reviewer, Parallel Computing. 2012
- Reviewer, Energies. 2012, 2014
- Reviewer, Sensors. 2014-2015
- Reviewer, International Journal of Critical Infrastructure Protection. 2010-2017
- Reviewer, International Journal of Security and Networks. 2009
- Reviewer, International Journal of Network Security. 2009-2014
- Reviewer, Journal of Circuits, Systems, and Computers. 2009
- Reviewer, IEEE Systems Journal. 2010
- Reviewer, International Journal of Computers & Electrical Engineering, 2011- 2015
- Reviewer, 2018 IEEE Conference on Control Technology and Applications (CCTA), 2018.
- Reviewer, Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE), 2013-2015.
- Reviewer, IEEE International Symposium on Circuits and Systems (ISCAS), 2010, 2011.
- Reviewer, ACM Technical Symposium on Computer Science Education (SIGCSE), 2012-2015.
- Reviewer, 2015 International Conference on Soft Computing and Software Engineering (SCSE'15), 2015.
- Reviewer, IEEE Symposium on Security and Privacy, 2008.
- Reviewer, Network & Distributed System Security Symposium, 2008.
- Reviewer, ACM Computer and Communications Security Conference, 2006.
- Reviewer, USENIX Security Conference, 2005, 2006 and 2008.

Professional and Honorary Societies
- Full member, Sigma Xi, The Scientific Research Society
- Member, Association for Computing Machinery (ACM)
- Member, Institute of Electrical and Electronics Engineers (IEEE)

Honors and Awards
- Outstanding Teaching Assistant for Computer Science Department, Stony Brook University, 2002.
- Shanghai Excellent Graduate Student of Universities, Shanghai, 2001.
- *Chen Enlian* National Scholarship, Tongji University, 2000.
- Excellent Graduate Cadre Scholarship, Tongji University, 1999
- *Wan Shen* Educational Fund Scholarship, Tongji University, 1999.
- *Bao Gang* Educational Scholarship, Tongji University, 1997.
- *Guo Xiebirong* Scholarship, Tongji University, 1996.
- First Prize of People's Fellowship for Excellent (Top 5) Undergraduate Students, Tongji University, 1994-1998.