

CIHAN TUNC

CONTACT INFO

Assistant Professor
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BRIEF SUMMARY OF IMPACT AT UNT

Funding: Established a diverse, sustainable, and resilient research funding portfolio that includes DoD/DoW, NSF, SBIR/STTR, and private industry, totaling almost \$700k of support so far. These funds have been used to support students, develop research initiatives, and required infrastructure. Among them, even the NSF REU grant resulted in engaging undergraduate students with multiple publications. Currently, there are five proposals under review (and two in preparation).

Publications: As an assistant professor, first focused on building an active and independent research group addressing multiple individual yet interconnected research directions, and published in various venues (3 high impact journals and 20 conferences *with students I advised* out of 6 journals and 23 conferences) during UNT.

Teaching: Developed an interactive, learning-based, hands-on, and rigorous teaching approach that emphasizes critical thinking, problem solving, and real-world applicability; and continuously updated (or created) course materials to meet research and industry trends.

Service: Contributed to department for academic excellence and student success while maintaining strong professional service activities to promote research collaboration, outreach, conference organization, and engagement with emerging trends in cybersecurity and cyber-physical systems research.

RESEARCH INTERESTS

• Internet of Drone Things (IoDT) • Cybersecurity • Cyber-resiliency • Drone Security • Intrusion Detection/Prevention Systems (IDPS) • Internet of Things (IoT) • Smart Cities • Zero Trust Architecture • Cybersecurity education

EDUCATION

University of Arizona, Tucson, AZ

Aug 2011 – Jan 2015

Ph.D. in Computer Engineering (Electrical and Computer Engineering)

Dissertation: “*Autonomic Cloud Resource Management*”

Research: Autonomic Power, Performance, and Security Management for Cloud Systems

Advisors: Salim Hariri and Ali Akoglu

Northeastern University, Boston, MA

Sep 2008 – May 2010

M.Sc. in Computer Engineering (Electrical and Computer Engineering)

Thesis: “*Variation and Defect Tolerance for Nano Crossbars*”

Advisor: Mehdi B. Tahoori

Bahcesehir University, Istanbul, Turkey

Sep 2003 – Jun 2008

B.Sc. in Electrical & Electronics Engineering, Minor in Computer Engineering

Graduation Project: “*Carry Save Tree Generation*”

Advisor: H. Fatih Ugurdag

RESEARCH FUNDING

Summary:

As a PI, my share brought to UNT: $\$30,000 + \$249,939 + \$40,000 + \$43,642 = \$363,581$

As a co-PI, my share brought to UNT: $\$105,000 + \$104,000 + \$101,240 = \$310,240$

Gift Award: $\$7,382$ (cash) + $\$7,500$ (equipment)

Additional UNT support: $\$5,500$

Total Amount: $\$694,203$

Current Funding

- **C. Tunc (PI)**, “*Agentic Framework for Vulnerability Management*,” Siemens Corporation, Technology, Budget: $\$30,000$, Award Period: 12/2025 – 11/2026
- **C. Tunc (PI)**, R. Dantu (Co-PI), “*Research and Development of a Private LLM for Finding Knowledge, Skills, Abilities and Tasks (KSAT) in Curriculum, Courses, Certificates, and Assessments*,” Department of War, Budget: $\$249,939$ (my share: 100%), Award Period: 9/2024 - 9/2026
- R. Dantu (PI), **C. Tunc (Co-PI)**, “*Research & Development of Microtranscript: Immersive Cybersecurity Workforce Development Program to Prepare Current and Future Workforce in Critical Infrastructure*,” National Security Agency (NSA), Budget: $\$700,000$ ($\$500,000$ base + $\$200,000$ option) (my share: $\$105,000$), Award Period: 9/2024 – 12/2026.
- R. Dantu (PI), **C. Tunc (Co-PI)**, “*Research and Development of LLM-Based Platform for Matching DCWF Job Descriptions and Curriculums*,” Department of War, Budget: $\$2,079,950$ (my share: $\$104,000$), Award Period: Award Period: 9/2024 – 9/2026 (no cost extension: 9/2027).

Proposals In Preparation

- **C. Tunc (PI)**, “*CAREER: Resilient Internet of Drone Things (IoDT) Operations (RIoDTO)*,” National Science Foundation (NSF), estimated budget: $\$560,000$ to be submitted by 07/2026 to CPS (under FutureCore).
- **C. Tunc (PI)**, A. Rattani (Co-PI), K. Namuduri (Co-PI), “*CPS-FR: Internet of Drone Things (IoDT)-based Continuous and Autonomous Infrastructure Assessment*,” National Science Foundation (NSF), estimated budget: $\$770,000$ to be submitted by 09/2026 to CPS (under FutureCore).

Proposals Under Review

- **C. Tunc (PI)**, K.M. Siu (Co-PI), “*CPS-FR: Energy-Aware Multi-Layer Drone Swarm Management*,” National Science Foundation (NSF), Proposed Budget: $\$935,814$ (my share: $\$467,907$)
- **C. Tunc (PI)**, A. Rattani (Co-PI), R. Dantu (Co-PI), “*CyberAI Innovation: AI4Cyber Game -- Teaching Cybersecurity through Interactive AI-Driven Scenarios*,” National Science Foundation (NSF), Proposed Budget: $\$499,999$ (my share: $\$300,000$).
- **C. Tunc (PI)**, R. Dantu (Co-PI), “*Drone Swarm Network Cyber Analytics for Cyber-Operation Assurance*,” National Security Agency (NSA), Proposed Budget: $\$745,644$ (my share: $\$484,669$).
- A. Rattani (PI), **C. Tunc (Co-PI)**, S. Sharma (Co-PI), S. Mohanty (Co-PI), “*CyberTraining: Implementation: Small: BioSecure: CyberTraining for Secure and Privacy-Preserving Biometric Cyberinfrastructure*,” National Science Foundation (NSF), Proposed Budget: $\$349,972$ (my share: $\$34,997$).
- R. Bryce (PI), **C. Tunc (Co-PI)**, “*REU Site: TaMaLe-EA – Testing and Machine Learning for Emerging Applications: Research Experience for Undergraduates*,” National Science Foundation (NSF), Proposed Budget: $\$453,946$ (my share: $\$226,973$).

Past Funding

- R. Bryce (PI), **C. Tunc (co-PI)**, “*TaMaLe – Testing and Machine Learning for Context-Driven Systems*,” National Science Foundation (NSF), Budget: $\$404,957$ (my share: $\$101,240$), Period: 02/2022 – 12/2025.

- **C. Tunc (PI)**, A. Alshehri B. Tufekci, **2024 Siemens Tech Sustainability through Cybersecurity Challenge**, “OTZET: Operational Technology Zero Trust Engine for Trustworthiness,” Award: \$7,000 (We were awarded as the finalist of global competition) with an additional OT equipment gift worth more than \$7,500.
- **C. Tunc (PI, subcontracted)**, SBIR N211-058 “Autonomic Protection for UMAA services,” Naval Air Warfare Center (Aircraft Division), Budget: \$120,000 (my share: \$40,000), Period: 07/2021 – 01/2024.
- **C. Tunc (PI)**, “Model Extraction for Zero-Trust Architecture (ZTA) based Internet of Things (IoT) Compliance,” Siemens Corporation, Technology, Budget: \$43,642, Period: 01/2021 – 03/2022
- **C. Tunc (PI)**, “Junior Faculty Summer Research Grant,” University of North Texas, Budget: \$5,000, Period: 06/2021 – 08/2021.
- **C. Tunc (PI)**, “Faculty First Flight,” University of North Texas, Budget: \$500, Period: 06/2021 – 12/2021.
- **S. Hariri (PI), C. Tunc (Co-PI)** “Resilient DDDAS-based Cloud Services (rDaaS) for Cyber Battle Management Systems,” AF Office of Scientific Research, Budget: \$453,404 (Perc: 50%), Period: 06/2018 – 06/2021.
- **S. Hariri (PI), C. Tunc (Co-PI)**, “FCTaaS: Federated Cybersecurity Testbed as a Service,” National Science Foundation, Budget: \$300,000 (Perc: 11%), Period: 10/2018 – 09/2020.
- **S. Hariri (PI), C. Tunc (Co-PI)**, Resilient Application as a Service (RAaaS),” National Institute of Standards and Technology (NIST), Budget: \$150,000 (Perc: 50%), Period: 06/2018 – 05/2020.
- **S. Hariri (PI), C. Tunc (Co-PI)**, “Resilient Cloud Services (RCS): Design, Analysis, and Deployment,” National Institute of Standards and Technology (NIST), Budget: \$50,000 (Perc:20%), Period: 05/2016 – 04/2017.

PUBLICATIONS

¹: PhD/MS students under my supervision/co-supervision & ²: REU or visiting students under my supervision & ³: Students I am a committee member for & * shows if the corresponding author is me or my student.

Thesis & Dissertation

- [TD1] **C. Tunc**, “Autonomic Cloud Resource Management,” **PhD Dissertation**, Jan 2015.
- [TD2] **C. Tunc**, “Variation and Defect Tolerance for Nano Crossbars,” **MS Thesis**, May 2010.

Book Chapters

- [BC1] J. Pacheco, **C. Tunc**, and S. Hariri, “Resilient Communications and Command and Control of Cyber-Physical Systems,” in “Enhancing Cyber Resilience of Communications, Command and Control of Large-Scale Systems with Moving Target Defense”, (to appear).
- [BC2] J. Pacheco, **C. Tunc**, and S. Hariri, “Smart Cities,” in “Cyber Resilience of Systems and Networks,” Springer, ISBN: 978-3-319-77491-6, 2019.
- [BC3] **C. Tunc**, S. Hariri, and A. Battou, “A Design Methodology for Developing Resilient Cloud Services (RCS),” in “Handbook of System Safety and Security: Cyber Risk and Management, Cyber Security, Threat Analysis, Functional Safety, Software Systems, and Cyber Physical Systems,” edited by Edward Griffior, Elsevier Inc., ISBN: 978-0-12-803773-7, 2016.

Peer-Reviewed Journals

- [J1] F. Shibli¹, B. Tufekci¹, **C. Tunc**, and R. Laidig¹, “Leveraging LLM Decision-Making in the Internet of Drone Things (IoDT) Ecosystem,” ACM Journal on Autonomous Transportation Systems (2026). *
- [J2] I. Kawaminami, S. Shao, S. Hariri, and **C. Tunc**, “Attack Classification and Response Framework (ACR) Based on Machine Learning and CAPEC Ontology,” IEEE Access (2026).

- [J3] F. Shibli¹, B. Tufekci¹, **C. Tunc**, and R. Bryce, “*Streamlined Internet of Drone Things (IoDT) Simulator*,” Cluster Computing 28, no. 6 (2025): 390. *
- [J4] H. Namdari¹, V. Morales Avalos¹, A. Alshehri¹, **C. Tunc**, and R. Dantu, “*Enhanced trust in IoT environments: utilizing perfect Bayesian equilibrium, exponential smoothing, and machine learning*,” Cluster Computing 28, no. 9 (2025): 572. *
- [J5] C. Wu, S. Shao, **C. Tunc**, P. Satam, and S. Hariri, “An explainable and efficient deep learning framework for video anomaly detection,” Cluster Computing 25, no. 4 (2022): 2715-2737.
- [J6] S. Shao, **C. Tunc**, A. Al-Shawi, and S. Hariri, “*An Ensemble of Ensembles Approach to Author Attribution for Internet Relay Chat Forensics*,” ACM Transactions on Management Information Systems (TMIS) 11, no. 4 (2020): 1-25.
- [J7] **C. Tunc**, E. Blasch, Y. Badr, and S. Hariri, “*Service-Oriented Infrastructure for Resilient DDDAS-based Cyber Battle Management*,” submitted to Future Generation Computer Systems - Special Issue on Self-Protecting Systems, 2019.
- [J8] S. Shao, **C. Tunc**, A. Al-Shawi, S. Hariri, “*Feature Engineering for Machine Learning-Based Author Identification in Internet Relay Chat*,” submitted to IEEE Transactions on Information Forensics and Security, 2019
- [J9] J. Bernard, S. Shao, **C. Tunc**, H. Kheddouci, and S. Hariri, “*Cyber-Threat Detection in Internet Relay Chat Channels through Quasi-cliques based Analysis*,” submitted to Social Network Analysis and Mining, Springer, 2019
- [J10] **C. Tunc**, D. Machovec, N. Kumbhare, A. Akoglu, S. Hariri, and H.J. Siegel, “*Value of Service Based Resource Management for Large-Scale Computing Systems*,” Springer Cluster Computing, vol. 20, no. 3, pp. 2013-2030, Sep. 2017.
- [J11] J. Pacheco, **C. Tunc**, P. Satam, and S. Hariri, “*Secure and Resilient Cloud Services for Enhanced Living Environments*,” IEEE Transactions on Cloud Computing, Special Issue on Enhanced Living Environments: Algorithms, Architectures and Platforms (Cloud4ELE), vol. 3, no. 6, pp. 44-52, Nov. 2016.
- [J12] D. Machovec, B. Khemka, N. Kumbhare, S. Pasricha, A.A. Maciejewskia, H.J. Siegel, A. Akoglu, G.A. Koenig, S. Hariri, **C. Tunc**, M. Wright, M. Hilton, R. Rambharos, C. Blandin, F. Fargo, A. Louri, and N. Imam, “*Utility-Based Resource Management in an Oversubscribed Energy-Constrained Heterogeneous Environment Executing Parallel Applications*,” Elsevier Parallel Computing (ParCo), Nov. 2016.
- [J13] S. Hariri, J. Pacheco, **C. Tunc**, and Y. Al-Nashif, “*A Methodology for Designing Resilient and Smart Critical Infrastructures*,” Electrical and Computer Engineering Department Heads Association, 2015.
- [J14] **C. Tunc** and S. Hariri, “*CLaaS: Cybersecurity Lab as a Service*,” Journal of Internet Services and Information Security (JISIS), vol. 5, no. 4, pp. 41-59, Nov. 2015.

Peer-Reviewed Conferences and Workshops

- [C1] Y. Konapalli³, L. Ben Othmane, **C. Tunc**, F. Benchellal³, and L. Mudagere, “*Reverse Engineering and Control-Aware Security Analysis of the ArduPilot UAV Framework*,” 8th International Workshop on Software Engineering Research & Practices for the Internet of Things (SERP4IoT 2026) co-located with the 48th ACM/IEEE International Conference on Software Engineering ICSE 2026.
- [C2] R.K. Pandit³, K. Morozov, and **C. Tunc**, “*Privacy-Preserving Medical Risk Assessment Using Homomorphic Encryption*,” 2025 IEEE Secure Development Conference (SecDev), pp. 37-44. IEEE, 2025.
- [C3] R. Laidig², F. Shibli¹, B. Tufekci¹, F. Dürr, and **C. Tunc**, “*Improving Drone Communication QoS Through Adaptive Redundancy*,” 2025 34th International Conference on Computer Communications and Networks (ICCCN), pp. 1-9. IEEE, 2025. *

- [C4] F.J. Alruwaili¹ and C. Tunc, “*A Lightweight and Efficient Intrusion Detection System for Drone Networks*,” 2025 5th Intelligent Cybersecurity Conference (ICSC), pp. 219-226. IEEE, 2025. *
- [C5] V.M. Avalos¹, and C. Tunc, “*Trust Evaluation Based on a Risk Assessment and Game Theory for Virtual Machines in a Cloud Environment*,” 2025 10th International Conference on Fog and Mobile Edge Computing (FMEC), pp. 58-65. IEEE, 2025. *
- [C6] A.R. Fausak¹, C. Tunc, and A.T. Fausak¹, “*Malicious Intent Detection Framework for Social Networks*,” 2024 IEEE/ACS 21st International Conference on Computer Systems and Applications (AICCSA), pp. 1-6. IEEE, 2024. *
- [C7] A. Alshehri¹, B. Tufekci¹, and C. Tunc, “*Identification Management for Zero Trust Through Network Analysis*,” 2024 IEEE/ACS 21st International Conference on Computer Systems and Applications (AICCSA), pp. 1-6. IEEE, 2024. *
- [C8] A.T. Fausak¹, C. Tunc, and A.R. Fausak¹, “*Crowd Counting Camera Array and Correction*,” 2024 IEEE/ACS 21st International Conference on Computer Systems and Applications (AICCSA), pp. 1-8. IEEE, 2024. *
- [C9] B. Tufekci¹, V. Quach¹, C. Tunc, and R. Dantu, “*DUDE-IDS: A Framework for Efficiently Detecting Network-Related Drone Cyberattacks*,” 2024 11th International Conference on Internet of Things: Systems, Management and Security (IOTSMS), pp. 240-247. IEEE, 2024. *
- [C10] B. Tufekci¹, A.A. Burak, C. Tunc, and K. Morozov, “*Enhancing the security of the mavlink with symmetric authenticated encryption for drones*,” 2024 11th International Conference on Internet of Things: Systems, Management and Security (IOTSMS), pp. 58-65. IEEE, 2024. *
- [C11] V. Quach¹, B. Tufekci¹, C. Tunc, and R. Dantu, “*Hazardous Area Aware Path-Planning for Drone Swarms*,” 2024 IEEE International Conference on Mobility, Operations, Services and Technologies (MOST), pp. 168-177. IEEE, 2024. *
- [C12] A. Alshehri¹, and C. Tunc, “*Zero trust engine for iot environments*,” 2023 20th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA), pp. 1-3. IEEE, 2023. *
- [C13] S. Shaik¹, C. Tunc, and K. Morozov, “*Intrusion Detection for Additive Manufacturing Systems and Networks*,” 2023 20th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA), pp. 1-3. IEEE, 2023. *
- [C14] D. Petrou², V. Martinez-Gil², F. Castillo², C. Tunc, and R. Bryce, “*Twitter Account Analysis for Drug Involvement Detection*,” 2023 3rd Intelligent Cybersecurity Conference (ICSC), pp. 9-16. IEEE, 2023. *
- [C15] H. Namdari¹, C. Tunc, and R. Dantu, “*Phoenix: IoT Trust Evaluation Using Game Theory with Second Chance Protocol*,” 2023 10th International Conference on Internet of Things: Systems, Management and Security (IOTSMS), pp. 117-124. IEEE, 2023. *
- [C16] E.B. Putnam², D.N. Senarath², G.R. Urquijo², C. Tunc, and R. Bryce, “*A lightweight drone simulator*,” 2023 Tenth International Conference on Software Defined Systems (SDS), pp. 52-59. IEEE, 2023. *
- [C17] B. Tufekci¹, C. Tunc, and R. Dantu, “*Efficient Motion Control Strategy for Drone Swarms*,” 2023 10th International Conference on Recent Advances in Air and Space Technologies (RAST), pp. 01-06. IEEE, 2023. *
- [C18] C. Tunc, J. Durflinger¹, C. Mahmoudi, and V. Formicola, “*Autonomic zta-based network management engine (aznme)*,” 2022 IEEE International Symposium on Software Reliability Engineering Workshops (ISSREW), pp. 25-30. IEEE, 2022. *
- [C19] C. Tunc, and S. Hariri, “*Self-Protection for Unmanned Autonomous Vehicles (SP-UAV): Design Overview and Evaluation*,” 2022 IEEE International Conference on Autonomic Computing and Self-Organizing Systems Companion (ACSOS-C), pp. 128-132. IEEE, 2022. *
- [C20] B. Tufekci¹, and C. Tunc, “*Vulnerability and threat analysis of uavs*,” 2021 IEEE/ACS 18th International Conference on Computer Systems and Applications (AICCSA), pp. 1-2. IEEE, 2021. *

- [C21] S. Shao, P. Satam, S. Satam, K. Al-Awady, G. Ditzler, S. Hariri, and **C. Tunc**, “*Multi-layer mapping of cyberspace for intrusion detection*,” 2021 IEEE/ACS 18th International Conference on Computer Systems and Applications (AICCSA), pp. 1-8. IEEE, 2021.
- [C22] H. Namdari¹ and **C. Tunc**, “*Toward Resilience Methods in Cloud Computing*,” 2021 IEEE/ACS 18th International Conference on Computer Systems and Applications (AICCSA), Tangier, Morocco, 2021, pp. 1-2, doi: 10.1109/AICCSA53542.2021.9686860 *
- [C23] F. Fargo, O. Franza, **C. Tunc**, and S. Hariri, “*VM Introspection-based Allowlisting for IaaS*,” In 2020 7th International Conference on Internet of Things: Systems, Management and Security (IOTSMS), pp. 1-4. IEEE, 2020. *
- [C24] C. Wu, S. Shao, **C. Tunc**, and S. Hariri, “*Video anomaly detection using pre-trained deep convolutional neural nets and context mining*,” 2020 IEEE/ACS 17th International Conference on Computer Systems and Applications (AICCSA), pp. 1-8. IEEE, 2020.
- [C25] L. Yao, **C. Tunc**, P. Satam, and S. Hariri, “*Resilient Machine Learning (rML) Ensemble Against Adversarial Machine Learning Attacks*,” International Conference on Dynamic Data Driven Application Systems, pp. 274-282. Springer, Cham, 2020.
- [C26] S. Shao, **C. Tunc**, A. Al-Shawi, and S. Hariri, “*Automated Twitter Author Clustering with Unsupervised Learning for Social Media Forensics*,” 16th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2019), Abu Dhabi, UAE, Nov. 2019.
- [C27] S. Shao, **C. Tunc**, A. Al-Shawi, and S. Hariri, “*One-class Classification with Deep Autoencoder Neural Networks for Author Verification in Internet Relay Chat*,” 16th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2019), Abu Dhabi, UAE, Nov. 2019.
- [C28] J. H. Pacheco Ramirez, V. Benitez, **C. Tunc**, and C. Grijalva Lugo, “*Anomaly Behavior Analysis for Fog Nodes Availability Assurance in IoT Applications*,” Workshop on Automation of Cloud Configuration and Operations (ACCO 2019), co-located with AICCSA 2019, Abu Dhabi, UAE, Nov., 2018.
- [C29] F. Fargo, O. Franza, **C. Tunc**, and S. Hariri, “*Autonomic Resource Management for Power, Performance, and Security in Cloud Environment*,” Workshop on Automation of Cloud Configuration and Operations (ACCO 2019), co-located with AICCSA 2019, Abu Dhabi, UAE, Nov. 2019.
- [C30] M. Merzouki, C. Mahmoudi, R. Bohn, **C. Tunc**, “*Security Automation for Cloud-Based IoT Platforms*,” The 2019 IEEE International Conference on Internet of Things, Atlanta, USA, Jul. 2019.
- [C31] J. Bernard, S. Shao, **C. Tunc**, H. Kheddouci, and S. Hariri, “*Quasi-Cliques Analysis for IRC Channel Thread Detection*,” Complex Networks 2018, UK, Dec. 2018.
- [C32] S. Shao, **C. Tunc**, and S. Hariri, “*Autonomic Author Identification in Internet Relay Chat (IRC)*,” 15th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2018), Aqaba, Jordan, Nov. 2018.
- [C33] J. Pacheco, **C. Tunc**, and S. Hariri, “*Security Framework for IoT Cloud Services*,” Workshop on Automation of Cloud Configuration and Operations (ACCO 2018), Jordan, Oct.-Nov., 2018.
- [C34] M. Yang, I.B. Djordjevic, **C. Tunc**, S. Hariri, and A. Akoglu, “*An Optical Interconnect Network Design for Dynamically Composable Data Centers*,” 19th IEEE International Conference on High Performance Computing and Communications (HPCC 2017), Bangkok, Thailand, Dec. 2017,
- [C35] N. Kumbhare, **C. Tunc**, D. Machovec, A. Akoglu, S. Hariri, and H.J. Siegel, “*Value-Based Scheduling for Oversubscribed Power-Constrained Homogeneous HPC Systems*,” IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2017), Tucson, Arizona, USA, Sep. 2017.
- [C36] **C. Tunc**, S. Hariri, and Y. Badr, “*Resilient Dynamic Data Driven Application Systems as a Service (rDaaS): A Design Overview*,” Workshop on InfoSymbiotics: DDDAS Dynamic Data Driven Applications Systems (InfoSymbiotic:DDDAS17) in IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2017), Tucson, Arizona, USA, Sep. 2017.

- [C37] S. Shao, **C. Tunc**, P. Satam, and S. Hariri, “*Real-time IRC Threat Detection Framework*,” The 1st International Workshop on Autonomics and Cloud Security (ACS) in IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2017), Tucson, Arizona, USA, Sep. 2017.
- [C38] **C. Tunc**, S. Hariri, M. Merzouki, C. Mahmoudi, F.J. de Vault, J. Chbili, R. Bohn, and A. Battou, “*Cloud Computing Security Automation Framework*,” The 1st International Workshop on Autonomics and Cloud Security (ACS) in IEEE Intn’l Conference on Cloud and Autonomic Computing (ICCAC 2017), Tucson, Arizona, USA, Sep. 2017.
- [C39] **C. Tunc**, F. Fargo, Y. Al-Nashif, and S. Hariri, “*Autonomic Cross-Layer Management of Cloud Resources Framework*,” The IEEE Workshop on Automation of Cloud Configuration and Operations (ACCO 2017) in IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2017), Tucson, Arizona, USA, Sep. 2017.
- [C40] A.T. Ozdemir, **C. Tunc**, and S. Hariri, “*Autonomic Fall Detection System*,” The IEEE Workshop on Automation of Cloud Configuration and Operations (ACCO 2017) in IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2017), Tucson, Arizona, USA, Sep. 2017.
- [C41] N. Kumbhare, **C. Tunc**, S. Hariri, I. Djordjevic, A. Akoglu, and H.J. Siegel, “*Just In Time Architecture (JITA) for Dynamically Composable Data Centers*,” 13th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2016), Agadir, Morocco, Nov. 2016,
- [C42] **C. Tunc**, N. Kumbhare, A. Akoglu, S. Hariri, D. Machovec, and H.J. Siegel, “*Value of Service Based Task Scheduling for Cloud Computing Systems*,” IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2016), Augsburg, Germany, Sep. 2016.
- [C43] J. Yu, **C. Tunc**, and S. Hariri, “*Automated Framework for Scalable Collection and Intelligent Analytics of Hacker IRC Information*,” IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2016), Augsburg, Germany, Sep. 2016.
- [C44] S. Gu, L. Yao, **C. Tunc**, A. Akoglu, S. Hariri, and E. Ritchie, “*An Autonomic Workflow Performance Manager for Weather Research and Forecast Workflows*,” IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2016), Augsburg, Germany, Sep. 2016.
- [C45] J. Pacheco, **C. Tunc**, and S. Hariri, “*Design and Evaluation of Resilient Infrastructures Systems for Smart Cities*,” IEEE International Smart Cities Conference (ISC2), Trento, Italy, Sep. 2016.
- [C46] D. Machovec, **C. Tunc**, N. Kumbhare, B. Khemka, A. Akoglu, S. Hariri, and H.J. Siegel, “*Value-Based Resource Management in High-Performance Computing Systems*,” 7th ACM Workshop on Scientific Cloud Computing (ScienceCloud’16), Kyoto, Japan, Jun. 2016.
- [C47] S. Hariri, **C. Tunc**, P. Satam, F. Al-Moualem, and E. Blasch, “*DDDAS-Based Resilient Cyber Battle Management Services (D-RCBMS)*,” IEEE 22nd International Conference on High Performance Computing Workshops (HiPCW), Bangalore, India, Dec. 2015.
- [C48] J.H. Pacheco Ramirez, B. AlBaalbaki, **C. Tunc**, S. Hariri, and Y. Al-Nashif, “*Anomaly Behavior Analysis System for ZigBee in Smart Buildings*,” 12th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2015), Marrakech, Morocco, Nov. 2015.
- [C49] **C. Tunc**, S. Hariri, F. Montero, F. Fargo, and P. Satam, “*CLaaS: Cybersecurity Lab as a Service -- Design, Analysis, and Evaluation*,” IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2015), Boston, MA, USA, Sep. 2015.
- [C50] **C. Tunc**, S. Hariri, Y. Al-Nashif, F. Montero, F. Fargo, and P. Satam, “*Teaching and Training Cybersecurity as a Cloud Service*,” IEEE International Workshop on Autonomic Cloud Cybersecurity (ACC 2015) in 2015 International Conference on Cloud and Autonomic Computing (ICCAC 2015), Boston, MA, USA, Sep. 2015.
- [C51] B. Khemka, D. Machovec, C. Blandin, H.J. Siegel, S. Hariri, A. Louri, **C. Tunc**, F. Fargo, and A.A. Maciejewski, “*Resource Management in Heterogeneous Parallel Computing Environments with Soft and*

- Hard Deadlines*,” The XI Metaheuristics International Conference (MIC 2015), Agadir, Morocco, Jun. 2015.
- [C52] **C. Tunc**, F. Fargo, Y. Al-Nashif, S. Hariri, and J. Hughes, “*Autonomic Resilient Cloud Management (ARCM): Design and Evaluation*,” 2014 International Conference on Cloud and Autonomic Computing (CAC 2014), London, United Kingdom, Sep. 2014.
 - [C53] F. Fargo, **C. Tunc**, Y. Al-Nashif, A. Akoglu, and S. Hariri, “*Autonomic Workload and Resources Management of Cloud Computing Services*,” 2014 International Conference on Cloud and Autonomic Computing (CAC 2014), London, United Kingdom, Sep. 2014.
 - [C54] F. Fargo, **C. Tunc**, Y. Al-Nashif, and S. Hariri, “*Autonomic Performance-per-Watt Management (APM) of Cloud Resources and Services*,” ACM Cloud and Autonomic Computing Conference, Miami, Florida, USA, Aug. 2013.
 - [C55] B. Yuce, S. Korkmaz, V.B. Esen, F. Temizkan, **C. Tunc**, G. Guner, I.F. Baskaya, I. Agi, G. Dunder, and H.F. Ugurdag, “*Synthesis of Clock Trees for Sampled-Data Analog IC Blocks*,” East-West Design & Test Symposium, Rostov-on-Don, Russia, Sep. 2013.
 - [C56] F. Ugurdag, O. Keskin, **C. Tunc**, F. Temizkan, G. Fici, and S. Dedeoglu, “*RoCoCo: Row and Column Compression for High-Performance Multiplication on FPGAs*,” East-West Design & Test Symposium, Sevastopol, Ukraine, Sep. 2011 (*outstanding paper award*).
 - [C57] **C. Tunc** and M.B. Tahoori, “*On-the-fly Variation Tolerant Mapping in Crossbar Nano-Architectures*,” IEEE VLSI Test Symposium (VTS), Santa Cruz, California, USA, Apr. 2010.
 - [C58] **C. Tunc** and M.B. Tahoori, “*Variation Tolerant Logic Mapping for Crossbar Array Nano Architectures*,” IEEE Asia and South Pacific Design Automation Conference (ASP-DAC), Taipei, Taiwan, Jan. 2010.

Under Review (UR)

- [UR1] B. Tufekci¹, **C. Tunc**, “*Context-Aware Operational Security for Autonomous Drones*,” ACM Journal on Autonomous Transportation Systems, 2026.
- [UR2] E. Sheykhi, M. Yilmaz, **C. Tunc**, “*A Data-Driven Approach for Optimal Fixed PV Tilt: Benchmarking Machine Learning Models*,” Electric Power Systems Research, 2026

In-Process (IP)

- [IP1] F. Shibli¹, R. Dantu, **C. Tunc**, “*Measuring Academic Rigor Through Knowledge Demand in Technical Assessments*,” to be submitted to: IEEE Transactions on Education (ToE), 2026.
- [IP2] A. Alshehri¹, **C. Tunc**, “*Federated Learning and LLM-Driven Threat Intelligence for Zero Trust IoT Architecture*,” to be submitted to: IEEE MILCOM 2026.
- [IP3] S. Shaik¹, K. Morozov, **C. Tunc**, “*G-code Analysis for Defect Detection in 3D Printing*,” to be submitted to 23rd ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2026).
- [IP4] F. Alruwaili¹, **C. Tunc**, “*Federated Lightweight IDS in Drone Swarms with Knowledge Distillation*,” to be submitted to: Elsevier Internet of Things; Engineering Cyber Physical Human Systems, 2026.
- [IP5] F. Benchellal³, L. Ben Othmane, Y. Konapalli³, **C. Tunc**, “*Control-Aware Manipulation of ArduPilot via Legitimate MAVLink Commands: Simulation and Hardware Validation*,” to be submitted to: Elsevier Computers & Security, 2026.
- [IP6] E. Sheykhi, M. Yilmaz, **C. Tunc**, “*Hybrid Graph-Temporal Deep Learning for Robust False Data Injection Attack Detection in Smart Grids*” venue to be decided.

WORK EXPERIENCE

The University of North Texas, Denton, Texas

Assistant Professor

Aug 2020 – Present

Research:

- Research interests include cybersecurity, cyber-threat analysis and prevention, Internet of Things (IoT), industrial IoT (IIoT), Operational Technologies (OT), Unmanned Vehicles (UV) including drones and their integration, interaction, management and security, and cybersecurity education.

Teaching:

Seven graduate-only courses, one undergraduate-only course, six cross-listed courses (the majority were undergraduate students) – u: undergraduate & g: graduate students.

- CSCE 3560/5562 – Cloud Security (Spring 2026): 76 students (73 u + 3 g) & Summary Rating: 2.7/5, CEI: 5.5/7, Response: 58/76
➔ This course is an advanced level cybersecurity course that requires background and consistent attendance. However, many students relied on AI-assistance and have not attended the class almost at all. The teaching evaluation shows a bimodal distribution showing a group of students were very enthusiastic and happy, and another group of students (who generally have low grades even though there were a good amount of bonuses) requesting a simple, easy, and relaxed class.
- CSCE 4555/5555 – Computer Forensics (Fall 2025): 38 students (26 u + 12 g) & Summary Rating: 4.7/5, CEI: 5.8/7, Response: 15/38
➔ This course was not originally in my teaching load; the faculty teaching this course resigned just ten days before the semester and I was requested to teach it instead. Hence, this was the first time and sudden course that required even creating lecture materials (as the book's materials were too lightweight and abstract) and decision of providing lab exercises.
- CSCE 3560/5562 – Cloud Security (Spring 2025): 44 students (37 u + 7 g) & Summary Rating: 4.5/5, CEI: 5.6/7, Response: 33/44
- CSCE 6933 – Advanced Topics in Computer Science and Engineering (Spring 2025): 12 g students & Summary Rating: 4.9/5, CEI: 6.4/7, Response: 10/12
- CSCE 5550 – Introduction to Computer Security (Fall 2024): 21 g students & Summary Rating: 4.7/5, CEI: 6.1/7, Response: 18/21
- CSCE 3560/5562 – Cloud Security (Spring 2024): 29 students (23 u + 6 g) & Summary Rating: 4.0/5, CEI: 5.2/7, Response: 16/29
- CSCE 6933 – Advanced Topics in Computer Science and Engineering (Spring 2024): 4 g students & Summary Rating: 4.2/5, CEI: 5.7/7, Response: 4/4
- CSCE 5550 – Introduction to Computer Security (Fall 2023): 62 g students & Summary Rating: 4.6/5, CEI: 6.2/7, Response: 51/62
- CSCE 3560/5933 – Computer Systems Security (Spring 2023): 36 students (26 u + 10 g) & Summary Rating: 3.6/5, CEI: 5.7/7, Response: 24/36
- CSCE 5550 – Introduction to Computer Security (Fall 2022): 71 g students & Summary Rating: 4.6/5, CEI: 6.5/7, Response: 43/71
- CSCE 3560 – Computer Systems Security & CSCE 5933 – Topics in CSCE (Spring 2022): 23 students (13 u + 10 g) & Summary Rating: 2.2/5, CEI: 5.3/7, Response: 20/23
➔ This was the first time this course was offered at UNT: I have created the course from scratch (including the syllabus, topics, lecture materials, homework and lab assignments). The course is an advanced level cybersecurity that focuses on computer system fundamentals, their connections, and how to secure them as well as how they affect Cloud Computing security (the course name has been updated

in the next years as ‘Cloud Security’). Hence, it requires some good background and consistent attendance from the students, which have been relatively a concern for some students.

- CSCE 3600 – Principles of Systems Programming (Fall 2021): 48 u students & Summary Rating: 3/5, CEI: 4.8/7, Response: 16/48
➔ This was the first time teaching this course.
- CSCE 5550 – Introduction to Computer Security (Spring 2021): Hybrid due to COVID-19, 41 g students & Summary Rating: 4.5/5, CEI: 5.9/7, Response: 30/41
- CSCE 5550 – Introduction to Computer Security (Fall 2020): Completely online due to COVID-19, 18 students & Summary Rating: 3.2/5, CEI: 5.5/7, Response: 11/18
➔ This was the first time teaching this course and all online, which was challenging as a junior faculty.

Service:

- MS in Cybersecurity Coordinator: Jan 2025 – Present
- Alternate PoC for *BS in Cybersecurity* and *BS in Computer Science with Security Certificate* programs designated by NSA: Jan 2024 – Present
- College-level IT Support committee member: Aug 2024 – Present
- Grade Appeal committee member: Aug 2021 – Present
- Distinguished Speaker Organizer: Aug 2021 – Present
- Graduate committee member: Sep 2020 – Present
- PhD Admission Committee Member: Aug 2022 – Aug 2026
- Clinical Professor Search committee member: Oct 2021 – Nov 2022

The University of Arizona, Tucson, Arizona

Research Assistant Professor

May 2015 – Aug 2020

Research:

- Cloud resiliency, cybersecurity, cyber-threat analysis and prevention systems, Cybersecurity Lab as a Service (CLaaS), power and performance management for large-scale systems.
- Development of research projects and assisting in and writing technical proposals.
- Coordination of various international conferences, workshops, meetings.
- Management and maintenance of the platforms and infrastructures at the ACL lab.

Teaching:

- Instructor for “ECE 509 – Cybersecurity: Concept, Theory, and Practice” during Fall 2019 – this is a completely *online class* with 19 grad-level students
- Co-instructing (teaching, lecturing, and advising) students (together with Prof. Salim Hariri) through the following grad-level courses (with both in-class and online students):
 - ECE 524 – Fundamentals of Cloud Security (Spring 2018)
 - ECE 677 – Distributed Computing System (Fall 2015, 2016, and 2017)
 - ECE 509 – Cybersecurity: Concept, Theory, and Practice (Spring 2015, 2016, 2017, and 2018)
- Supervision/mentoring graduate- (both PhD and MS) and undergraduate-level students

National Institute of Standards and Technology (NIST), Gaithersburg, Maryland

Guest Researcher

Sep 2016 – Aug 2020

- Research and development on the cloud computing system management and security automation.
- Data collection from all the entities in a cyber-environment for the analysis and security.

Avirtek, Inc., Tucson, Arizona

Research Scientist Consultant

May 2015 – May 2017

- Avirtek AIM (Automated & Integrated Management) system development and integration.
- Automation of the system installation and configuration.

- Development of new technologies for Avirtek systems
 - Securing commercial AIM products that operate under a licensed environment only.
 - Building autonomic computing-based management modules.
 - Collection of the cyber-environment data including network, computers, and users.
- Guiding/mentoring software engineers.
- Assisting in the preparation of the proposals between Avirtek and the University of Arizona.

The University of Arizona, Tucson, Arizona

Graduate Research Assistant

Aug 2011 – Jan 2015

- Research on autonomic power and performance management for cloud computing systems.
- Research on resiliency through moving target defense (MTD) for cloud systems.
- Development of AskCyPert – Cybersecurity as a Service (CLaaS) backend.
- Research and development of acceleration of hypothetical LDPC decoders using FPGAs.
- Responsible for the platforms and infrastructures of the ACL lab at The University of Arizona.

Graduate Teaching Assistant

Aug 2013 – Dec 2014

- Teaching MPI and OpenMP for “ECE677 – Distributed Computing System” (Fall 2013 and Fall 2014). Responsibilities included setup, configuration, and maintenance of the systems required during the class, as well as grading homework, term papers, and projects.
- Grading homework and projects for “ECE506 – Reconfigurable Computing” (Spring 2014).

Samsung Research America, Dallas, Texas

R&D Engineering Intern

May 2013 – Aug 2013

- Design and optimization of a MIMO detector architecture based on K-Best algorithm for Xilinx Virtex-6 (XCVLX550T) to be used in next-generation WiFi systems.
- Algorithm optimization and implementation using Verilog and Xilinx CoreGen.

Ozyegin University, Istanbul, Turkey

Research Assistant

Sep 2010 – Aug 2011

- Research on computer arithmetic, specifically on row and column compressors, to accelerate the summation and multiplication operations.

Instructor/Teaching Assistant

Jan 2011 – Jul 2011

- Teaching 23 high-school students on making a line-following robot (its design, electronics, and programming) in two weeks during RoboKamp at 2011.
- Grading and assisting Java based “CS 101 – Computer Programming” and
- Assisting “EE 564 – Computer Architecture & Performance”.

Northeastern University, Boston, MA

Research Assistant

Sep 2008 – May 2010

- Research on “Variation and Defect Tolerance for Nano Crossbars”, *(Please refer to the Projects section)*

Teaching Assistant

Sep 2008 – May 2010

- Instruction “EECE 2413 – Electronics Lab” (Fall 2009 and Spring 2010).
- Grading “EECE 3324 – Computer Architecture and Organization” (Spring 2009).
- Grading “EECE 2312 – Digital Logic Design” (Fall 2008).

Bahcesehir University, Istanbul, Turkey

Undergraduate Lab Assistant

Feb 2007 – Jun 2007

- Research on FPGA design and design automation.
- Helping students in the FPGA-based “Digital System Design Lab” (Fall 2007).

PRESENTATIONS/TALKS

- **Invited Speaker:** AI summer research program at UNT, July 15, 2025 (organized by Prof. Mark Albert)
- **Invited Speaker:** *"Internet of Drone Things (IoDT) Ecosystem: Problems and Research,"* Ozyegin University, Istanbul, Turkey, Oct 17, 2024
- **Invited Speaker:** *"Cybersecurity for Internet of Drone Things (IoDT) Environments,"* Atlas University, Istanbul, Turkey, Oct 15, 2024
- **Keynote Speaker:** *"Cybersecurity - A growing concern not only for end-users,"* Intel Software Professionals Conference (SWPC), Oct 2022
- **Keynote Speaker:** *"Growing Concern of Information Technologies: Cybersecurity,"* Intel Software Professionals Conference (SWPC), Oct. 18, 2021
- **Keynote Speaker:** *"Cloud Computing & IoT Challenges and Approaches,"* 4th International Conference on Life and Engineering Sciences (ICOLES 2021), Sep. 24, 2021
- **Invited Guest Speaker:** *"Cloud Computing for IoT: Challenges and Approaches,"* MS program in IoT and AI at Universidad de Sonora (University of Sonora), Oct. 14, 2020
- **Invited Talk:** *"Welcome to Cybersecurity,"* Navajo Technical University, Crownpoint, New Mexico, Dec. 2019
- **Invited Talk:** *"Cloud Computing Infrastructure and Security,"* American University of Malta, Malta, Nov. 2019
- **Project presentation:** *"IRC User Identification for Threat Detection,"* Franco-American Workshop, Lyon, France, Jul. 2018
- **Project presentation:** *"Cloud Security Automation,"* Franco-American Workshop, Lyon, France, Dec. 2017
- **Project presentation:** *"IRC Chat Analysis for Hacker Behavior,"* Franco-American Workshop, Lyon, France, Dec. 2017
- **Invited Talk:** *"Cloud Computing Resiliency Through Dynamic Redundancy,"* Simposio Internacional de Ingeniería, Sistemas y Tecnología, Hermosillo, Mexico, Feb. 2014 (presentation)
- **Invited Lecturer:** *"Parallel Distributed Computing,"* Simposio Internacional de Ingeniería, Sistemas y Tecnología, Hermosillo, Mexico, Feb. 2014

STUDENT MENTORSHIP

Current Students

- **PhD:** Amal Alshehri (started: 2023 Fall, passed readiness exam and proposal in Fall)
- **PhD:** Victor Morales (started: 2023 Fall, passed readiness exam)
- **PhD:** Fatima Shibli (started: 2024 Spring)
- **PhD:** Robert Smith (started: 2024 Fall, part-time, passed readiness exam)
- **PhD:** Andrew Fausak (started: 2024 Fall, part-time)
- **PhD:** Andy Fausak (started: 2024 Fall, part-time)
- **PhD:** Gaurav Srivastava (started: 2026 Spring, part-time)
- **PhD:** Seemaparvez Shaik – co-supervisor (started: Fall 2023, major professor: Kirill Morozov, passed readiness exam)
- **MS:** Danielle Hess (thesis, expected graduation: 2026 Summer)

Graduated Students

PhD Students

- Fawaz Alruwaili (2025 Fall, PhD Dissertation: *"Lightweight ML-Based Drone Intrusion Detection System Through Model Compression"*) – Currently an Assistant Professor in the College of Computer and Information Sciences at Jouf University, Saudi Arabia

- Burak Tufekci (2024 Fall, PhD Dissertation: “*Intrusion Detection System for Drones*”) – Currently a Senior Engineer - FPGA Security at JMA Wireless, Dallas, TX

MS Students

- Andrew Fausak (Spring 2024, MS Thesis: “*Malicious Intent Detection*”)
- Andy Fausak (Spring 2024, MS Thesis: “*Crowd Counting Camera Array and Correction*”)
- James Durlinger (Spring 2022, MS Thesis: “*Autonomic Zero Trust Framework for Network Protection*”)

Committee Member for the Following PhD Students:

- Fatema Khatun, supervisor: Kirill Morozov
- Majed Alhazmi, supervisor: Renee Bryce
- Abdulrahman Ibrahim M Alkinani, supervisor: Saraju Mohanty
- Arup Datta, supervisor: Hyunsook Do
- Jose Joseph, supervisor: Hyunsook Do
- Md Amit Khan, supervisor: Renee Bryce
- Raushan Pandit, supervisor: Kirill Morozov
- Sai Mahesh Mudavat, supervisor: Saraju Mohanty (graduated)
- Elsa Paulson, supervisor: Renee Bryce
- Nick Pecka, supervisor: Lotfi Ben Othmane / Renee Bryce
- Asrar Qassem, supervisor: Renee Bryce
- Majed Alhazmi, supervisor: Renee Bryce
- Deyuan Qu, supervisor: Qing Yan (graduated)
- Pooja Goyal, supervisor: Renee Bryce (graduated)
- Syed Badruddoja, supervisor: Ram Dantu (graduated)
- Fernando Mosquera Ferrandiz, supervisor: Krishna Kavi (graduated)
- Abiola Salau, supervisor: Ram Dantu (graduated)
- Kritagya Upadhyay, supervisor: Ram Dantu (graduated)
- Md Mosharaf Hossain, supervisor: Mark Albert (graduated)
- Alakananda Mitra, supervisor: Saraju Mohanty (graduated)
- Chengyuan Zhuang, supervisor: Xiaohui Yuan (graduated)
- Lakshmi Sukrutha Tirumala Vangipuram, supervisor: Saraju Mohanty (graduated)

PROFESSIONAL SERVICE

Additional Departmental Activities

- Faculty Committee Member, Cyber Clinic Initiative @UNT, 2025 – present.
- Faculty Committee Member, GradInnoHack2025, 2025.
- Faculty Advisor, 2023 Security BSides Dallas-Fort Worth (BSidesDFW) at UNT
- Faculty Advisor, HackUNT: April 23rd - 24, 2022.
- I hosted Spring-2022 NSF-CAC Semi-Annual IAB Conference at UNT: This was to create the NSF CAC affiliation site at UNT and introduce UNT to the other affiliated universities and NSF. The center has ended.

Journal Associate Editor

- Associate Editor for Springer Cluster Computing

Journal Reviewer

- Springer Cluster Computing
- IEEE Transactions on Cloud Computing

- IEEE Pervasive Computing
- ACM Transactions on Management Information Systems
- Elsevier Computer Standards & Interfaces
- Elsevier Future Generation Computer Systems
- Elsevier Computers and Electrical Engineering
- Elsevier Computers & Security
- IEEE Transactions on Sustainable Computing

Conference General Chair & Co-Chair

- General chair for 21st ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2024)
- Program Co-Chair, *The IEEE Workshop on Automation of Cloud Configuration and Operations (ACCO 2019, co-located with AICCSA 2019)*, Abu Dhabi, AUE, 2019
- Program Co-Chair, *The IEEE Workshop on Automation of Cloud Configuration and Operations (ACCO 2018, co-located with AICCSA 2018)*, Aqaba, Jordan, 2018
- Program Co-Chair, *The IEEE Workshop on Automation of Cloud Configuration and Operations (ACCO 2017, co-located with ICCAC 2017)*, Tucson, AZ, USA, 2017
- Program Co-Chair, *IEEE International Workshop on Big Data Analytics for Cybersecurity Computing (BDAC 2016, co-located with Intelligence and Security Informatics (ISI 2016))*, Tucson, AZ, USA, 2016

Conference Chair

- Publication and Finance Chair, 23rd ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2026)
- Publication and Finance Chair, 22nd ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2025)
- Special Session Chair, 10th IEEE International Symposium on Smart Electronic Systems (IEEE-iSES 2024)
- Publication and Finance Chair, 21st ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2024)
- Publication and Finance Chair, 20th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2023)
- Program Co-Chair and Publication Chair, 19th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2022)
- Registration, Finance, and Publication Chair, 18th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2021)
- Registration, Finance, and Publication Chair, 17th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2020)
- Publicity Chair, The IEEE International Conference on Autonomic Computing and Self-Organizing Systems (ACSOS), 2020
- Registration, Finance, and Publication Chair, 16th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2019)
- Proceedings Chair, *The International Conference on Big Data & Cybersecurity Intelligence (BDCSIntell'2018)*
- Registration, Finance, and Publication Chair, 15th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2018)
- Registration, Finance, and Publication Chair, 14th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2017)
- Registration, Finance, and Publication Chair, *IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2017)*

- Registration, Finance, and Publication Chair, *13th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2016)*
- Publication Chair, *IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2016)*
- Registration and Finance Chair, *12th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2015)*
- Registration and Publication Chair, *IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2015)*

Conference Technical Program Committee member

- The 8th International Conference on Blockchain Computing and Applications (BCCA 2026)
- EPIA2025 - Artificial Intelligence for Industry and Societies (2025)
- The 29th Australasian Conference on Information Security and Privacy (ACISP 2024)
- 22nd EPIA Conference on Artificial Intelligence (EPIA2023)
- 2023 IEEE International Conference on Cloud Computing (IEEE CLOUD 2023)
- 2022 Sustainable, Innovative and Intelligent Societies and Cities (SIISC22)
- 5th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2022)
- 2022 IEEE International Conference on Cloud Computing (IEEE CLOUD 2022)
- 2022 EPIA conference on Artificial Intelligence (EPIA2022)
- Symposium on Solutions for Smart Cities Challenges 2021 (SSCC2021)
- 2021 IEEE International Conference on Cloud Computing (IEEE CLOUD 2021)
- 2021 Springer Symposium on Intelligent and Autonomous Systems (SIAS 2021)
- The 12th IEEE International Conference on Cloud Computing Technology and Science (CloudCom 2020)
- 2020 Symposium on Solutions for Smart Cities Challenges (SSCC-2020)
- 2nd International Workshop on Self-Protecting Systems (SPS20)
- The 11th IEEE International Conference on Cloud Computing Technology and Science (CloudCom'19)
- 2018 Artificial Intelligence and Cloud Computing Conference (AICCC 2018)
- IEEE Global Communications Conference 2018
- Foundation and Applications of Self* Systems (FAS* 2018)
- 6th International Conference on Control Engineering & Information Technology (CEI'18)
- International Workshop on Architectures for Future Mobile Computing and Internet of Things (FMCIoT'2018), Tangier, Morocco, 2018
- 10th IEEE International Conference on Cloud Computing Technology and Science (CloudCom'18)
- 9th IEEE International Conference on Cloud Computing Technology and Science (CloudCom'17)
- IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2017)
- IEEE International Workshop on Autonomic Cloud Cybersecurity (ACC 2015, co-located with ICCAC 2015)

Additional Duties

- The NSA National Centers of Academic Excellence in Cybersecurity (NCAE-C) program report reviewer, 2024 – Present
- Faculty Committee Member, Texas Cybersecurity Workshop (This is a new state-wide initiative, and multiple universities are being involved such as UTD, UTSA, Texas A&M, Baylor, etc.), 2026 – present.
- PhD forum mentor for the students attending AICCSA 2018, 2019, and 2024.
- Department representative at CMD-IT/ACM Richard Tapia Conference, September 16-18, 2020

HONORS & AWARDS

- *Faculty Service Award*, Department of Computer Science and Engineering (CSE) at the University of North Texas (UNT), Spring 2026.
- *Faculty Citizenship Award*, Department of Computer Science and Engineering (CSE) at the University of North Texas (UNT), Spring 2024.
- *2024 Siemens Tech Sustainability through Cybersecurity Challenge*: A global competition and our team was awarded as the winning team for sustainability through cybersecurity. We gave an online talk for their headquarter and it has been publicly broadcasted. URL: <https://engineering.unt.edu/news/phd-candidates-and-faculty-selected-winning-team-2024-siemens-tech-sustainability-through.html>
 - *Our group was also gifted with an OT environment that consists of PLCs, power supplies, network components, etc. worth of \$7,500+.*
- Burak Tufekci (my PhD student), “*The Spirit of Innovation*,” March 2023: He obtained the 3rd place in the competition.
- *Best poster award* in CAC 2014 – F. Fargo, C. Tunc, Y. Al-Nashif, A. Akoglu, and S. Hariri, “*Autonomic Management of Cloud Resources and Services Framework*,” IEEE International Conference on Cloud and Autonomic Computing (CAC 2014), London, UK., Sep. 2014
- *Graduate Research Assistantship* in the Department of Electrical and Computer Engineering of the University of Arizona (Fall 2011 – Fall 2014)
- *Graduate Research/Teaching Assistantship* in the Department of Electrical and Computer Engineering at Northeastern University (Fall 2008 – Spring 2010)
- *Outstanding paper award* (F. Ugurdag, O. Keskin, C. Tunc, F. Temizkan, G. Fici, and S. Dedeoglu, “*RoCoCo: Row and Column Compression for High-Performance Multiplication on FPGAs*,” East-West Design & Test Symposium, Sevastopol, Ukraine, Sep. 2011)

MEMBERSHIP

- IEEE Member (2006 – Present)
- ACM Member (2025 – Present)
- Turkish Student Association at the University of Arizona (Academic Advisor, Spring 2017 – Fall 2018)
- Turkish Student Association at the University of Arizona (President, Spring 2012 – Fall 2014)
- IEEE Student Branch at Bahcesehir University (President, Fall 2007 – Spring 2008)
- IEEE Student Branch at Bahcesehir University (Member, Fall 2006 – Fall 2007)