Yasin Yilmaz

Affiliation & Contact Information	Associate Professor Electrical Engineering Department University of South Florida 4202 E Fowler Ave., ENG 030 Tampa, FL 33620, USA (813) 974-4788 yasiny@usf.edu http://www.eng.usf.edu/~yasiny
Research Interests	Machine learning, Statistical signal processing, Computer vision, Cybersecurity, Biomedi- cal systems, Intelligent transportation systems, IoT, Smart grid, Environmental systems, Socioeconomic systems, Energy systems, Communication systems, Cyber-physical systems
Educational Background	Postdoctoral Research in Data Science (Sep. 2014 - July 2016), University of Michigan, Ann Arbor, MI, USA Advisor: Prof. Alfred O. Hero Topic: "Bayesian Generative Models for Multimodal Data Fusion"
	 Ph.D. in Electrical Engineering (Sep. 2010 - Aug. 2014), Columbia University, New York, NY, USA Advisor: Prof. Xiaodong Wang Co-Advisor: Prof. George V. Moustakides Thesis: "Sequential Statistical Signal Processing with Applications to Distributed Systems"
	 M.Sc. in Electrical and Computer Engineering (Sep. 2008 - June 2010), Koc University, Istanbul, Turkey Advisor: Prof. S. Serdar Kozat Thesis: "New Adaptive Algorithms for Linear Filtering and Nonlinear Prediction"
	B.Sc. in Electrical and Electronics Engineering (Sep. 2004 - June 2008), Middle East Technical University, Ankara, Turkey
Professional Experience	 Associate Professor, University of South Florida (2022-) Assistant Professor, University of South Florida (2016-2022) Postdoctoral Research Fellow, University of Michigan (2014-2016) Graduate Assistant, Columbia University (2010-2014) Graduate Assistant, Koc University, Istanbul, Turkey (2008-2010)
Awards & Recognitions	 2022 Chih Foundation Research & Publication Award, Faculty Advisor Finalist at the 2022 Florida Blue Health Innovation Challenge. Winner, CVPR21 Continual Learning Challenge, IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) (2021) Winner, NIST Automated Streams Analysis for Public Safety Challenge, 2020 IEEE BigData Cup Second Rank Award, Global Road Damage Detection Challenge, IEEE International Conference on Big Data (IEEE BigData) (2020) AI City Challenge Second Rank Award, NVIDIA, IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) (2020) IEEE Senior Member, 2020 Best Paper Honorable Mention Award, ACM Conference on Recommender Systems (RecSys) (2019) Young Investigator Award, Southeastern Center for Electrical Engineering Education (20% success rate)

• Collaborative Research Award, Electrical Engineering Department, Columbia University (2015)

Research Grants

- NSF, Co-PI, "SaTC: CORE: Medium: Physically Unclonable Wireless Systems (PUWS) for RF Fingerprinting and Physical Layer Security", \$1,200,000 (My portion \$600,000), 1/23-12/26
- NSF-NIFA, PI, "Collaborative Research: SitS: Wireless Soil Sensing and Advanced Data-Driven Analysis for Post-Wildfire Hazards and Recovery in Mountainous Landscapes", \$1,200,000 (My portion \$250,000), 1/23-12/25
- DOD-ACE (through Northeastern University), Co-PI, "Towards Ultra-High Performance Geodetic DEMs", \$1,200,000 (My portion \$110,000), 9/22-9/23
- NSF, Senior Personnel, "NSF Convergence Accelerator Track E: The BlueGreen Action Platform, connecting communities upstream and downstream to improve nitrogen management", \$5,000,000 (My portion \$50,000), 9/22-8/24
- DOD-MDA (through Epitome Inc.), PI, "Object Detection, Tracking, and Identification in a Congested Environment Using Artificial Intelligence Enabled Algorithms", \$150,000 (My portion \$40,000), 7/22-1/23
- Google Cloud Research Credits, \$5,000, 5/22-5/23
- NSF STEER Course Improvement Grant, \$3,000, 3/22-9/22
- NSF 2137891, Senior Personnel, "NSF Convergence Accelerator Track E: Linking the Green Economy to the Blue Economy at the Coast", \$750,000 (My portion \$30,000), 9/21-8/22
- NSF ECCS-2040572, PI, "Collaborative Research: Real-Time Data-Driven Anomaly Detection for Complex Networks", \$450,000 (My portion \$225,000), 8/21-7/24
- Moffitt Cancer Center, PI, "Prostate Segmentation and Cancer Detection using Deep Neural Networks", \$120,000 (My portion \$120,000), 8/21-8/24
- NSF ECCS-2029875, co-PI, "Collaborative Research:SWIFT: SMALL: Understanding and Combating Adversarial Spectrum Learning towards Spectrum-Efficient Wireless Networking", \$450,000 (USF part \$270,000, My portion \$135,000), 9/20-8/23
- DOD-USSOCOM, Senior Personnel, "Data-Driven Intelligence for Active Identification and Characterization", \$2,000,000 (My portion \$127,463), 8/19-9/21
- NIST, PI, "Scalable Multimodal Data Representation from Video, Text, Audio for Real-Time Event Detection", \$30,000 (My portion \$30,000), 9/20-12/21
- Florida Center for Cybersecurity, PI, "Online Learning and Visualization for Intrusion Detection and Prevention in Privacy-Enhanced IoT Networks", \$75,000 (My portion \$37,500), 7/20-12/21
- DOT-FRA, PI, "Autonomous Track Inspection System based on Passive Sensing and Anomaly Detection - Phase 1", \$177,672 (My portion \$127,000), 5/20-7/21
- NSF CNS-1737598, PI, "SCC-Planning: Agent-Based Scenario Planning for a Smart & Connected Community Against Sea Level Rise in Tampa Bay", \$100,000 (My portion \$75,000), 9/17-8/19
- SCEEE Research Initiation Grant 17-03, Sole PI, "Online Nonparametric Cyber-Attack Detection", \$24,599 (plus \$25,000 cost sharing), 7/17-12/18
- USF Strategic Investment Pool (SIP) Awards, Co-PI, "Center for Artificial Intelligence AI+X", \$120,000, 5/2019-4/20
- USF Equipment Acquisition and Improvement Grant, Co-PI, "Data-driven Intelligence for Cybersecurity and Privacy", \$40,000, 7/18-6/19

Theses Supervised

- Sabeen Ahmed, PhD, 8/2022-, USF (co-advised with Dr. Ghulam Rasool)
- Aakash Tripathi, PhD, 8/2022-, USF (co-advised with Dr. Ghulam Rasool)
- Justin Mcmillen, PhD, 8/2022-, USF
- Hamza Karim, PhD, 8/2022-, USF
- Furkan Mumcu, PhD, 1/2022-, USF
- Shatha Abudalou, PhD, 1/2020-, USF

•	Kevin Wilcher, PhD, Mechanical Engineer	ing, 5/2020-	, USF	(co-advised	with Dr.	Tansel
	Yucelen)					

• Salman Sadiq Shuvo, PhD, "Markov Decision Processes for Energy and Environmental Systems", 1/2018- , USF . 1 5 Б 4:--1 (1--11) ning Al с т

	 Keval Doshi, PhD, "Video Anomaly Detection: Practical Challenges for Learning Algorithms", 8/2017-5/2022, USF (next job: Applied Scientist, Amazon Prime Video, Seattle, WA) Almuthanna Nassar, PhD, "Adaptive Network Slicing in Fog RAN for IoT with Heterogeneous Latency and Computing Requirements: A Deep Reinforcement Learning Approach", 8/2017-8/2021, USF (next job: Postdoctoral Fellow, Moffitt Cancer Center → Senior Staff Data Scientist, Walmart Labs, Seattle, WA) Mehmet Aktukmak, PhD, "Multimodal Data Fusion and Attack Detection in Recommender Systems", 8/2017-12/2020, USF (co-advised with Dr. Ismail Uysal) (next job: Postdoctoral Fellow, University of Michigan, Ann Arbor → Senior AI Engineer, Intel, CA) Ammar Haydari, MS, "Sequential Decision Making in Intelligent Transportation Systems", 8/2017-7/2019, USF (currently PhD student at University of California, Davis) Mehmet Necip Kurt, PhD, "Online Change Detection with Applications to Cyber-Physical Systems", 9/2016-6/2020, Columbia University (co-advised with Dr. Xiaodong Wang), (next job: Research Scientist, Samsung → Research Scientist, Amazon)
Non-Thesis Research with MS Students	 Madhusudhan Venkatarangaiah, "Brain image segmentation using deep neural networks", 8/2022-12/2022 Muqbil Saleh Almuqbil, "Speaker Verification using deep neural networks", 1/2020-8/2020 Mahsa Mozaffari, "Online nonparametric anomaly detection for high-dimensional systems", 8/2017-8/2020 (currently PhD student at Rochester Institute of Technology), USF Abdullah Taher, "Nonparametric sequential joint detection and estimation", 1/2017-7/2018, USF (currently PhD student at Penn State)
Research Experience for Undergraduate (REU) Students	 Mohamed Gadalla, 12/2022-, USF Electrical Engineering, Remote Sensing Anil Mumbuc, 11/2022-, USF Computer Science, Automatic Speech Recognition Shawn Sheng, 10/2022-, USF Electrical Engineering, Automatic Speech Recognition Lokman Bekit, 10/2022-, USF Electrical Engineering, Video Anomaly Detection Timothy Nassar, 9/2020-12/2020, USF Electrical Engineering, Video Anomaly Detection
VISITING RESEARCHERS	 Motahareh Pourbehzadi, Visiting Ph.D. student, "Energy Management and Cyberse- curity in Smart Grid", 8/2019-8/2020, USF (currently PhD student at USF Business School)
PUBLICATIONS	Google Scholar Profile https://scholar.google.com/citations?hl=en&user=KEbLEmcAAAAJ
	Peer Reviewed Publications
	 Shuvo, S.S. and Yilmaz, Y., 2023. Demand-side and Utility-side Management Techniques for Increasing EV Charging Load. IEEE Transactions on Smart Grid (Scimago: Q1 Computer Science (miscellaneous), H-index 171; Google Scholar: h5-index 130, #1 in Power Engineering).
	79. Doshi, K. and Yilmaz, Y., 2023. Towards Interpretable Video Anomaly Detection. In Proceedings of the IEEE/CVF Winter Conference on Applications of Computer

Vision (pp. 2655-2664).

- 78. Calisto, M., Wei, Z., Abudalou, S., Yilmaz, Y., Gage, K, Pow-Sang, J. and Balagurunathan, Y., 2023. A Multi-object Deep Neural Network Architecture to detect Prostate Anatomy in T2-weighted MRI: Performance Evaluation, Frontiers in Nuclear Medicine.
- 77. Yumusak, S., Coban, M., Yilmaz, Y., and Altun, H.O., 2022. Detecting Dangerous Maritime Refugee Migration Paths through Cell Phone Activities. IEEE International Conference on Big Data (Big Data) (Google Scholar: h5-index 52).
- Mozaffari, M., Doshi, K. and Yilmaz, Y., 2022. Online Multivariate Anomaly Detection and Localization for High-Dimensional Settings. Sensors, 22(21), p.8264. (Scimago: Q1 Instrumentation, H-index 196; Google Scholar: h5-index 145).
- Mozaffari, M., Doshi, K. and Yilmaz, Y., 2022. Real-Time Detection and Classification of Power Quality Disturbances. Sensors, 22(20), p.7958. (Scimago: Q1 Instrumentation, H-index 196; Google Scholar: h5-index 145).
- Haydari, A. and Yilmaz, Y., 2022. RSU-Based Online Intrusion Detection and Mitigation for VANET. Sensors, 22(19), p.7612. (Scimago: Q1 Instrumentation, H-index 196; Google Scholar: h5-index 145).
- 73. Meyers, S., Yilmaz, Y., and Luther, M., "Some Methods for Addressing Errors in Static AIS Data Records", Ocean Engineering, (Scimago: Q1 Environmental Engineering, H-index 109; Google Scholar: h5-index 72, #1 in Ocean & Marine Engineering).
- Shuvo, S.S., Islam, M., and Yilmaz, Y., "DROP: Deep Reinforcement Learning Based Optimal Perturbation for MPPT in Wind Energy", The 54th North American Power Symposium (NAPS 2022) (Google Scholar: h5-index 23).
- 71. Shuvo, S.S., Symun, H., Ahmed, M.R., Yilmaz, Y., and Zayas-Castro, J.L., "Multi-Objective Reinforcement Learning Based Healthcare Expansion Planning Considering Pandemic Events", IEEE Journal of Biomedical and Health Informatics (Scimago: Q1 Biotechnology, H-index 137; Google Scholar: h5-index 80).
- Doshi, K., Abudalou, S. and Yilmaz, Y., 2022. Reward Once, Penalize Once: Rectifying Times Series Anomaly Detection. International Joint Conference on Neural Networks (IJCNN) (Scimago: H-index 77; Google Scholar: h5-index 57). arXiv preprint arXiv:2203.05167.
- 69. Shuvo, S.S. and Yilmaz, Y., 2022. Home Energy Recommendation System (HERS): A Deep Reinforcement Learning Method based on Residents' Feedback and Activity. IEEE Transactions on Smart Grid (Scimago: Q1 Computer Science (miscellaneous), H-index 171; Google Scholar: h5-index 130, #1 in Power Engineering).
- Mumcu, F., Doshi, K. and Yilmaz, Y., 2022. Adversarial Machine Learning Attacks Against Video Anomaly Detection Systems. IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW) (Scimago: H-index 96; Google Scholar: h5-index 89).
- Doshi, K. and Yilmaz, Y., 2022. Federated Learning-based Driver Activity Recognition for Edge Devices. IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW) (Scimago: H-index 96; Google Scholar: h5-index 89).
- Doshi, K. and Yilmaz, Y., 2022. Multi-Task Learning for Video Surveillance with Limited Data. IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW) (Scimago: H-index 96; Google Scholar: h5-index 89).

- M. N. Kurt, Y. Yilmaz and X. Wang, 2022. "Online Privacy-Preserving Data-Driven Network Anomaly Detection", IEEE Journal on Selected Areas in Communications (Scimago: Q1 Computer Networks and Communications, H-index 236; Google Scholar: h5-index 106).
- Doshi, K. and Yilmaz, Y., 2022. Rethinking Video Anomaly Detection A Continual Learning Approach. IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) (Google Scholar: h5-index 62).
- Doshi, K. and Yilmaz, Y., 2022. A Modular and Unified Framework for Detecting and Localizing Video Anomalies. IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) (Google Scholar: h5-index 62).
- 62. S. Shuvo, Y. Yilmaz, A. Bush and M. Hafen, 2021. "Modeling and Simulating Adaptation Strategies Against Sea-Level Rise Using Multiagent Deep Reinforcement Learning", IEEE Transactions on Computational Social Systems (Scimago: Q1 Human-Computer Interaction, H-index 28; Google Scholar: h5-index 33).
- Shuvo, S.S. and Yilmaz, Y., 2021. CIBECS: Consumer Input Based Electric Vehicle Charge Scheduling for a Residential Home. The 53rd North American Power Symposium (NAPS 2021) (Google Scholar: h5-index 23).
- Shuvo, S.S., Gebremariam, H. and Yilmaz, Y., 2021. Deep Reinforcement Learning Based OptimalPerturbation for MPPT in Photovoltaics. The 53rd North American Power Symposium (NAPS 2021) (Google Scholar: h5-index 23).
- Y. Yilmaz, M. Aktukmak and A. Hero, 2021. "Multimodal Data Fusion in High-Dimensional Heterogeneous Datasets via Generative Models", IEEE Transactions on Signal Processing (Scimago: Q1 Signal Processing, H-index 270; Google Scholar: h5index 99, #1 in Signal Processing).
- 58. Nassar, A. and Yilmaz, Y., 2021. "Deep Reinforcement Learning for Adaptive Network Slicing in 5G for Intelligent Vehicular Systems and Smart Cities." IEEE Internet of Things Journal (Scimago: Q1 Computer Networks and Communications, H-index 97; Google Scholar: h5-index 122, #1 in Computing Systems).
- 57. Aktukmak, M., Yilmaz, Y. and Uysal, I., 2021. Sequential Attack Detection in Recommender Systems. IEEE Transactions on Information Forensics and Security (Scimago: Q1 Computer Networks and Communications, H-index 133; Google Scholar: h5-index 92, #2 in Computer Security & Cryptography).
- Doshi, K. and Yilmaz, Y., 2021. An Efficient Approach for Anomaly Detection in Traffic Videos. IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW) (Scimago: H-index 96; Google Scholar: h5-index 89).
- Shuvo, S.S., Ahmed, M.R., Symum, H. and Yilmaz, Y., 2021. Deep Reinforcement Learning Based Cost-Benefit Analysis for Hospital Capacity Planning. International Joint Conference on Neural Networks (IJCNN) (Scimago: H-index 77; Google Scholar: h5-index 57).
- Doshi, K. and Yilmaz, Y., 2021. Online anomaly detection in surveillance videos with asymptotic bound on false alarm rate. Pattern Recognition, 114, p.107865. (Scimago: Q1 Artificial Intelligence, H-index 210; Google Scholar: h5-index 99)
- Doshi, K., Yilmaz, Y. and Uludag, S., 2021. Timely Detection and Mitigation of Stealthy DDoS Attacks via IoT Networks. IEEE Transactions on Dependable and Secure Computing (Scimago: Q1 Computer Science (miscellaneous), H-index 79; Google Scholar: h5-index 59).

- 52. Shuvo, S.S., Yilmaz, Y., Bush, A. and Hafen, M., 2020. A Markov Decision Process Model for Socio-Economic Systems Impacted by Climate Change. International Conference on Machine Learning (ICML) (Google Scholar: h5-index 204, #3 in Artificial Intelligence).
- 51. Shuvo, S.S. and Yilmaz, Y., 2020, November. Predictive Maintenance for Increasing EV Charging Load in Distribution Power System. In 2020 IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm) (pp. 1-6). IEEE (Google Scholar: h5-index 21).
- 50. Doshi, K. and Yilmaz, Y., 2020. Road Damage Detection using Deep Ensemble Learning. IEEE International Conference on Big Data (IEEE BigData) arXiv preprint arXiv:2011.00728 (Google Scholar: h5-index 52).
- Doshi, K. and Yilmaz, Y., 2020. "Fast unsupervised anomaly detection in traffic videos." *IEEE/CVF Conference on Computer Vision and Pattern Recognition Work*shops (CVPRW) (pp. 624-625) (Scimago: H-index 96; Google Scholar: h5-index 89).
- Doshi, K. and Yilmaz, Y., 2020. "Continual Learning for Anomaly Detection in Surveillance Videos." *IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops* (CVPRW) (Scimago: H-index 96; Google Scholar: h5-index 89).
- Doshi, K. and Yilmaz, Y., 2020. "Any-Shot Sequential Anomaly Detection in Surveillance Videos." *IEEE/CVF Conference on Computer Vision and Pattern Recognition* Workshops (CVPRW) (Scimago: H-index 96; Google Scholar: h5-index 89).
- 46. Haydari, A. and Yilmaz, Y., 2020. Deep reinforcement learning for intelligent transportation systems: A survey. IEEE Transactions on Intelligent Transportation Systems (Scimago: Q1 Computer Science Applications, Automotive Engineering, H-index 153; Google Scholar: h5-index 107, #1 in Transportation).
- 45. Kurt, M.N., Yilmaz, Y. and Wang, X., 2020. Real-time nonparametric anomaly detection in high-dimensional settings. IEEE Transactions on Pattern Analysis and Machine Intelligence (Scimago: Q1 Applied Mathematics, Artificial Intelligence, Hindex 372; Google Scholar: h5-index 149).
- Nassar, A. and Yilmaz, Y., 2019, November. "Dynamic Network Slicing for Fog Radio Access Networks." 2019 IEEE Global Conference on Signal and Information Processing (GlobalSIP) (pp. 1-5). IEEE. (Google Scholar: h5-index 26)
- Shuvo, S.S., Yilmaz, Y., Bush, A. and Hafen, M., 2019, November. "Scenario Planning for Sea Level Rise via Reinforcement Learning". 2019 IEEE Global Conference on Signal and Information Processing (GlobalSIP) (pp. 1-5) (Google Scholar: h5-index 26).
- Mozaffari, M. and Yilmaz, Y., 2019, October. "Online anomaly detection in multivariate settings." 2019 IEEE 29th International Workshop on Machine Learning for Signal Processing (MLSP) (pp. 1-6). IEEE. (Scimago: H-index 26; Google Scholar: h5-index 24)
- Kurt, M.N., Yilmaz, Y. and Wang, X., 2019, September. "Sequential Model-Free Anomaly Detection for Big Data Streams". 2019 57th Annual Allerton Conference on Communication, Control, and Computing (Allerton) (pp. 421-425). IEEE (Google Scholar: h5-index 31).
- Aktukmak, M., Yilmaz, Y. and Uysal, I., 2019, September. "Quick and accurate attack detection in recommender systems through user attributes". 2019 13th ACM Conference on Recommender Systems (pp. 348-352) (Google Scholar: h5-index 50).

- K. Doshi, M. Mozaffari and Y. Yilmaz, "RAPID: Real-time Anomaly-based Preventive Intrusion Detection", ACM Workshop on Wireless Security and Machine Learning (WiseML 2019)
- Aktukmak, M., Yilmaz, Y. and Uysal, I., 2019. "A probabilistic framework to incorporate mixed-data type features: Matrix factorization with multimodal side information". *Neurocomputing*, 367, pp.164-175. (Scimago: Q1 Artificial Intelligence, H-index 143, Google Scholar: h5-index 119)
- 37. Nassar, A. and Yilmaz, Y., 2019. "Reinforcement Learning for Adaptive Resource Allocation in Fog RAN for IoT With Heterogeneous Latency Requirements". *IEEE Access*, 7, pp.128014-128025. (Scimago: Q1 Computer Science (miscellaneous), Hindex 127, Google Scholar: h5-index 164)
- 36. Kurt, M.N., Yilmaz, Y. and Wang, X., 2019. "Secure distributed dynamic state estimation in wide-area smart grids." *IEEE Transactions on Information Forensics and Security*, 15, pp.800-815 (Scimago: Q1 Computer Networks and Communications, H-index 133; Google Scholar: h5-index 92, #2 in Computer Security & Cryptography).
- E. Hou, Y. Yilmaz and A. Hero, "Anomaly Detection in Partially Observed Traffic Networks", *IEEE Transactions on Signal Processing*, vol. 67, no. 6, pp. 1461-1476, Mar. 2019 (Scimago: Q1 Signal Processing, H-index 270; Google Scholar: h5-index 99, #1 in Signal Processing).
- 34. M. Schlafly, Y. Yilmaz and K. Reed, "Feature Selection in Gait Classification of Leg Length and Distal Mass", *Informatics in Medicine Unlocked*, vol. 15, 2019, https://doi.org/10.1016/j.imu.2019.100163 (Scimago: H-index 21; Google Scholar: h5-index 34)
- 33. Y. Yilmaz and S. Uludag, "Timely Detection and Mitigation of IoT-based Cyberattacks in the Smart Grid", *Journal of the Franklin Institute*, 2019, (Scimago: Q1 Applied Mathematics, H-index 84; Google Scholar: h5-index 55)
- 32. M. Kurt, Y. Yilmaz and X. Wang, "Real-Time Detection of Hybrid and Stealthy Cyber-Attacks in Smart Grid", *IEEE Transactions on Information Forensics and Security, vol. 14, no. 2, pp. 498-513, Feb. 2019* (Scimago: Q1 Computer Networks and Communications, H-index 133; Google Scholar: h5-index 92, #2 in Computer Security & Cryptography).
- A. Nassar and Y. Yilmaz, "Resource Allocation in Fog RAN for Heterogeneous IoT Environments based on Reinforcement Learning", *IEEE International Conference on* Communications (ICC), 2019 (Google Scholar: h5-index 69)
- H. Ali, S. Liu, Y. Yilmaz, A. Hero, R. Couillet, and I. Rajapakse, "Latent Heterogeneous Multilayer Community Detection", *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2019* (Scimago: H-index 163; Google Scholar: h5-index 96)
- 29. Y. Yilmaz, "Online Nonparametric Anomaly Detection with Applications to Cybersecurity", Transactions on Techniques in STEM Education, 2019
- A. Haydari and Y. Yilmaz, "Real-Time Detection and Mitigation of DDoS Attacks in Intelligent Transportation Systems", *IEEE Intelligent Transportation Systems Conference (ITSC)*, 2018 (Scimago: H-index 73; Google Scholar: h5-index 49)
- 27. Y. Yilmaz, M. Kurt and X. Wang, "Distributed Dynamic State Estimation and LQG Control in Resource-Constrained Networks", *IEEE Transactions on Signal and Information Processing over Networks, vol. 4, no. 3, pp. 599-612, Sep. 2018* (Scimago: Q1 Computer Networks and Communications, Information Systems, H-index 30; Google Scholar: h5-index 35)

- 26. M. Kurt, Y. Yilmaz and X. Wang, "Distributed Quickest Detection of Cyber-Attacks in Smart Grid", *IEEE Transactions on Information Forensics and Security, vol. 13,* no. 8, pp. 2015-2030, Aug. 2018 (Scimago: Q1 Computer Networks and Communications, H-index 133; Google Scholar: h5-index 92, #2 in Computer Security & Cryptography).
- Y. Yilmaz and A. Hero, "Multimodal Event Detection in Twitter Hashtag Networks", Journal of Signal Processing Systems, vol. 90, no. 2, pp. 185-200, Feb. 2018 (Scimago: H-index 51; Google Scholar: h5-index 23)
- 24. Y. Yilmaz and S. Uludag, "Mitigating IoT-based Cyberattacks on the Smart Grid", IEEE International Conference on Machine Learning and Applications (ICMLA), 2017 (Google Scholar: h5-index 33)
- Y. Yilmaz, "Online Nonparametric Anomaly Detection based on Geometric Entropy Minimization", *IEEE International Symposium on Information Theory (ISIT)*, 2017 (Scimago: H-index 95; Google Scholar: h5-index 61)
- 22. Y. Yilmaz, S. Li and X. Wang, "Sequential Joint Detection and Estimation: Optimum Tests and Applications", *IEEE Transactions on Signal Processing*, vol. 64, no. 20, pp. 5311-5326, Oct. 2016 (Scimago: Q1 Signal Processing, H-index 270; Google Scholar: h5-index 99, #1 in Signal Processing).
- Z. Guo, Y. Yilmaz and X. Wang, "Transmitter-Centric Channel Estimation and Low-PAPR Precoding for Millimeter-Wave MIMO Systems", *IEEE Transactions on Communications, vol. 64, no. 7, pp. 2925-2938, July 2016* (Scimago: Q1 Electrical and Electronic Engineering, H-index 214; Google Scholar: h5-index 95)
- 20. Y. Yilmaz, G. Moustakides and X. Wang, "Sequential and Decentralized Estimation of Linear Regression Parameters in Wireless Sensor Networks", *IEEE Transactions on Aerospace and Electronic Systems, vol. 52, no. 1, pp. 288-306, Feb. 2016* (Scimago: Q1 Electrical and Electronic Engineering, H-index 144; Google Scholar: h5-index 54)
- E. Hou, Y. Yilmaz and A. Hero, "Diversion Detection in Partially Observed Nuclear Fuel Cycle Networks", ANS Advances in Nuclear Nonproliferation Technology and Policy Conference, 2016
- Y. Yilmaz, E. Hou and A. Hero, "Online Diversion Detection in Nuclear Fuel Cycles via Multimodal Observations", ANS Advances in Nuclear Nonproliferation Technology and Policy Conference, 2016
- S. Li, Y. Yilmaz and X. Wang, "Sequential Cyber-Attack Detection in the Large-Scale Smart Grid System", *IEEE International Conference on Smart Grid Communications*, 2015 (SmartGridComm) (Google Scholar: h5-index 21)
- 16. S. Li, Y. Yilmaz and X. Wang, "Quickest Detection of False Data Injection Attack in Wide-Area Smart Grids", *IEEE Transactions on Smart Grid, vol. 6, no. 6, pp.* 2725-2735, Nov. 2015. (Scimago: Q1 Computer Science (miscellaneous), H-index 171; Google Scholar: h5-index 130, #1 in Power Engineering)
- Y. Yilmaz and A. Hero, "Multimodal Factor Analysis", *IEEE International Workshop* on Machine Learning for Signal Processing (MLSP), Sep. 2015 (Scimago: H-index 26; Google Scholar: h5-index 24)
- M. Sayin, Y. Yilmaz, A. Demir and S. Kozat, "The Krylov-proportionate normalized least mean fourth approach: Formulation and performance analysis", *Signal Processing, vol. 109, pp. 1-13, Apr. 2015.* (Scimago: Q1 Signal Processing, Computer Vision and Pattern Recognition, H-index 136; Google Scholar: h5-index 68)

- Y. Yilmaz, G. Moustakides and X. Wang, "Sequential Joint Detection and Estimation", SIAM Theory of Probability and Its Applications, vol. 59, no. 3, pp. 452-465, 2015 (Scimago: H-index 32; Google Scholar: h5-index 9)
- Y. Yilmaz, Z. Guo and X. Wang, "Sequential Joint Spectrum Sensing and Channel Estimation for Dynamic Spectrum Access", *IEEE Journal on Selected Areas in Communications, vol. 32, no. 11, pp. 2000 - 2012, Nov. 2014* (Scimago: Q1 Computer Networks and Communications, H-index 236; Google Scholar: h5-index 106)
- Y. Yilmaz and X. Wang, "Sequential Distributed Detection in Energy-Constrained Wireless Sensor Networks", *IEEE Transactions on Signal Processing*, vol. 62, no. 12, pp. 3180-3193, June 2014. (Scimago: Q1 Signal Processing, H-index 270; Google Scholar: h5-index 99, #1 in Signal Processing).
- Y. Yilmaz and X. Wang, "Sequential Decentralized Parameter Estimation under Randomly Observed Fisher Information", *IEEE Transactions on Information Theory, vol.* 60, no. 2, pp. 1281-1300, Feb. 2014. Scimago: Q1 Information Systems, H-index 286; Google Scholar: h5-index 87)
- Y. Yilmaz, G. Moustakides and X. Wang, "Channel-aware Decentralized Detection via Level-triggered Sampling", *IEEE Transactions on Signal Processing, vol. 61, no.* 2, pp. 300-315, Jan. 2013. (Scimago: Q1 Signal Processing, H-index 270; Google Scholar: h5-index 99, #1 in Signal Processing).
- Y. Yilmaz, G.V. Moustakides and X. Wang, "Optimal Sequential Parameter Estimation", *IEEE International Symposium on Information Theory (ISIT)*, 2013 (Scimago: H-index 95; Google Scholar: h5-index 61)
- Y. Yilmaz and X. Wang, "Asymptotically Optimal and Bandwidth-efficient Decentralized Detection", *IEEE International Symposium on Information Theory (ISIT)*, 2013 (Scimago: H-index 95; Google Scholar: h5-index 61)
- Y. Yilmaz, G. Moustakides and X. Wang, "Cooperative Sequential Spectrum Sensing Based on Level-triggered Sampling", *IEEE Transactions on Signal Processing, vol.* 60, no. 9, pp. 4509-4524, Sep. 2012. (Scimago: Q1 Signal Processing, H-index 270; Google Scholar: h5-index 99, #1 in Signal Processing).
- Y. Yilmaz, G. Moustakides and X. Wang, "Sequential Decentralized Detection under Noisy Channels", Allerton Conference on Communication, Control, and Computing, 2012 (Google Scholar: h5-index 31)
- Y. Yilmaz, G. Moustakides and X. Wang, "Spectrum Sensing via Event-triggered Sampling", Asilomar Conference on Signals, Systems and Computers, 2011 (Scimago: H-index 78; Google Scholar: h5-index 30)
- Y. Yilmaz and S. Kozat, "Competitive Nonlinear Randomized Prediction under Additive Noise", *IEEE Signal Processing Letters, vol.* 17, no. 4, pg. 335-339, Apr. 2010 (Scimago: Q1 Signal Processing, H-index 138; Google Scholar: h5-index 65)
- 2. Y. Yilmaz and S. Kozat, "Toplanir Gurultu Altinda Yarismaci Dogrusal Olmayan Ongoru", *IEEE SIU 2010*
- Y. Yilmaz and S. Kozat, "An Extended Version of the NLMF Algorithm Based on Proportionate Krylov Subspace Projections", *IEEE International Conference on Machine Learning and Applications (ICMLA) 2009* (Google Scholar: h5-index 33)

Book Chapter

 Y. Yilmaz, M.N. Kurt, X. Wang, "Event-triggered and Privacy-preserving Anomaly Detection for Smart Environments", Wireless Sensor Networks in Smart Environments: Enabling Digitalization, IEEE-Wiley Sensors Books Series, May 2023 Y. Yilmaz, G. Moustakides, X. Wang, A. Hero, "Event-Based Statistical Signal Processing", Event-Based Control and Signal Processing, CRC Press: Boca Raton, FL, USA, Dec. 2015

Patent

- 4. A. Nassar, Y. Yilmaz, "Deep Reinforcement Learning for Adaptive Network Slicing in 5G for Intelligent Vehicular Systems and Smart Cities", application
- 3. K. Doshi, Y. Yilmaz, "Online Anomaly Detection in Surveillance Videos with Asymptotic Bound on False Alarm Rate", application
- 2. M. Mozaffari, K. Doshi, Y. Yilmaz, "Online Multivariate Anomaly Detection and Localization for High-dimensional Settings", application
- Y. Yilmaz, G. Moustakides and X. Wang, "Methods, systems, and media for determining whether a signal of interest is present", US9479372 B2, Oct 25, 2016

Invited Talks

- 15. "Data-Driven Sequential Change Detection in Privacy-Sensitive Networks", Allerton Conference on Communication, Control, and Computing, 2022, invited
- "Real-Time Video Anomaly Detection with Asymptotic Bound on False Alarm Rate", American Statistical Association Florida Chapter Annual Meeting, 4/2021 (Special Session on Machine Learning)
- "Improved Forecasting of Subduction Zone Earthquakes and Tsunamis with Modern Geodetic Techniques and Machine Learning", HBCU Data Science Consortium Salon Speaker Series, 3/2021 (joint talk with Prof. Tim Dixon, Geoscience, USF)
- Pourbehzadi, M., Niknam, T., Kavousi-Fard, A. and Yilmaz, Y., 2019, October. "IoT in Smart Grid: Energy Management Opportunities and Security Challenges." *IFIP International Internet of Things Conference* (pp. 319-327). Springer, Cham., invited
- 11. "Quick and Accurate Detection and Mitigation of IoT-Empowered Cyberattacks", ACM Workshop on Wireless Security and Machine Learning (WiseML 2019), invited
- S. Wang, M. Mozaffari, E. Yilmaz, Y. Yilmaz, J. Chang, "Big Data Analytics and Crimes in the Community", *The American Society of Criminology Meeting 2018*, invited
- 9. "Scenario Planning for Sea Level Rise via Markov Decision Processes", Allerton Conference on Communication, Control, and Computing, 2018, invited
- 8. "Nonparametric Sequential Change Detection for High-Dimensional Problems", Allerton Conference on Communication, Control, and Computing, 2017, invited
- Y. Yilmaz, S. Uludag and E. Dilek, "A Preliminary Work on Predicting Travel Times and Optimal Routes Using Istanbul's Real Traffic Data", *Transist 2016*, 9th Istanbul Transport Congress and Exhibition, Dec. 2016, invited
- "Multi-modal Factor Analysis: Unsupervised Feature Learning in Heterogeneous Big Datasets", Information Theory and Applications Workshop, Feb. 2016, invited
- 5. "Data-Driven Statistical Inference in Intelligent Systems", University of North Texas, Mar. 2016, invited
- "Multimodal Data Fusion and Online Statistical Inference", Schlumberger-Doll Research Center, Cambridge, MA, Mar. 2016, invited
- "Data-Driven Statistical Inference in Intelligent Systems", University of California, Riverside, Feb. 2016, invited

	 Y. Yilmaz, G. Moustakides, S. Li, X. Wang and A. Hero, "Sequential Joint Detec- tion and Estimation: Optimum Tests and Applications", <i>International Workshop on</i> Sequential Methodologies, 2015, invited
	 "Online Statistical Methods for Cyber-physical Systems", invited talk, King Abdullah University of Science and Technology, Thuwal, KSA, March 24 2014, invited
Teaching	 Data Analytics, 2017 - (USF) Advanced Data Analytics, 2017 - (USF) Signals and Systems, 2018 - (USF) Teaching Assistant: Signals and Systems, Communication Systems, Detection and Estimation Theory, Information Theory, Sparse Signal Modeling (Columbia University)
TECHNICAL ACTIVITIES	 Guest Editor, Special Issue on Multimodal Data Fusion Techniques and Applications in Intelligent Systems, Sensors, 2022-2023 Student Events Chair, IEEE Dependable and Secure Computing Conference 2023 Co-organizer, Special Session on Data Science and Advanced Analytics for Smart & Connected Communities, 8th IEEE International Conference on Data Science and Advanced Analytics (DSAA 2021) Industry Presentation Co-chair, IEEE Globecom 2020 Technical Chair, IEEE GlobalSIP 2019, Signal Processing and Machine Learning for Social Good Symposium. Session Chair, ACM Workshop on Wireless Security and Machine Learning (WiseML 2019) Vice Chair, Special Interest Group on AI Embedded Cognitive Networks, Technical Committee on Cognitive Networks, IEEE Communications Society Guest Editor, Special Issue on Machine Learning and Artificial Intelligence for Cognitive Internet of Things, IEEE Internet of Things Journal Guest Editor, Special Issue on Machine Intelligence and Cyber Security for Cognitive Internet of Things, Wireless Communications and Mobile Computing Panelist, NSF: Convergence Accelerator Program 2022; Communications, Circuits, and Sensing Systems (CCSS) Program 2020, 2021; Smart and Connected Communities (SCC) Program 2020; Harnessing Data Revolution (HDR) Program 2019; Computing and Communication Foundations (CCF) Program, 2018; Secure and Trustworthy Cyberspace (SaTC), 2017 Program Committee Member for AAAI Conference on Artificial Intelligence 2023, International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMIRC) 2018, 2019, IEEE International Wireless Communications & Mobile Computing Conference on Signal and Information Processing 2015 Reviewer for IEEE Transactions on Communications, IEEE Transactions on Information Theory, IEEE Transactions on Network and Service Management, IEEE/ACM Transactions on Networking, IEEE Journal on Selected Areas in Communications, IEEE Transactions on S
Other Recognitions	 Valedictorian (GPA 4.0), Koc University (2010) Ranked 58th among 132,000 students in Turkey (0.04%) in the Academic staff and graduate level education exam (2007)

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• Ranked 117th among 1.5 million students in Turkey (0.01%) in the University entrance exam (2003)

UNIVERSITY SERVICE

Ph.D.

Committee

Membership

- Member, Student Success Committee, Electrical Engineering, USF
- Department Lead, PhD program in Cancer Machine Learning, USF EE-CSE and Moffitt Cancer Center
- Co-Director, Diversity and Inclusion Scholarship in Cancer Machine Learning, USF and Moffitt Cancer Center
- Mohammad Noroozi, Industrial and Management Systems Engineering, USF
- Brooks Olney, Computer Science and Engineering, USF
- Tianze Chen, Computer Science and Engineering, USF
- Haoxuan Li, Computer Science and Engineering, MS, USF
- Md Taufeeq Uddin, Computer Science and Engineering, USF
- Stefan Ristevski, Mechanical Engineering, USF
- Rania Elashmawy, Electrical Engineering, USF
- Behnam Zeinali Rizi, Electrical Engineering, USF
- Aron Gebrelase, Civil & Environmental Engineering, West Virginia University
- Rajeev Joshi, Computer Science and Engineering, USF
- Md. Abul Hasnat, Electrical Engineering, USF
- Yanqing Kuang, Industrial Engineering, USF
- Aigerim Bogyrbayeva, Industrial Engineering, USF
- Anas Almunif, Electrical Engineering, USF
- Emre Yildirim, Mechanical Engineering, MS., USF
- Alla Abdella, Electrical Engineering, USF
- Md. Jakir Hossain, Electrical Engineering, USF
- Sinasi Cetinkaya, Electrical Engineering, USF
- Upama Nakarmi, Electrical Engineering, USF
- Di Zhuang, Electrical Engineering, USF
- Sen Wang, Electrical Engineering, USF
- Mehdi Hojatmadani, Mechanical Engineering, USF
- Benjamin Gruenwald, Mechanical Engineering, USF
- Burak Sarsilmaz, Mechanical Engineering, USF
- Merve Dogan, Mechanical Engineering, USF
- Ehsan Arabi, Mechanical Engineering, USF
- Dzung Tran, Mechanical Engineering, USF
- Pratool Bharti, Computer Science and Engineering, USF