# Prof. Dr. Suat Özdemir

CONTACT INFORMATION	Dept. of Computer Engineering Faculty of Engineering Hacettepe University Beytepe, Ankara, 06800, TURKEY	voice: +90 312 297 7500 ext. 1- fax: +90 312 297 7502 e-mail: ozdemir@cs.hacettepe.e www: https://web.cs.hacettepe.	du.tr
RESEARCH INTERESTS	<ul> <li>IoT, Artificial Intelligence, Data Analytics, Security and Data Mining.</li> <li>Arizona State University, Phoenix, Arizona USA</li> <li>Ph.D., Computer Science, December 2006.</li> </ul>		
EDUCATION			
	Syracuse University, Syracuse, New York USA M.Sc., Computer Science, May, 2001		
	Selcuk University, Turkey B.Sc., Civil Engineering, May, 1997		
ACADEMIC AND ADMINISTRATIVE EXPERIENCE	Hacettepe University, Ankara, Turkey. Professor Head of Artificial Intelligence Division		2020 - present 2022 - present
	<b>Higher Education Council</b> , Ankara, Turkey. Engineering Diploma Equivalency Committee Member		2022 - present
	TUBITAK, Ankara, Turkey. ARDEB EEEAG Advisory Board Membe Chief Researcher	r	2019 - 2022 2010 - 2014
	Gazi University, Ankara, Turkey. Professor Director of Informatics Institute Associate Professor Assistant Department Head Assistant Professor Department Erasmus Coordinator Department Farabi Coordinator Research Assistant Dr.		2018 - 2020 2016 - 2016 2012 - 2018 2010 - 2015 2008 - 2012 2008 - 2013 2009 - 2013 2007 - 2008
	CISARGE, Ankara, Turkey. Co-Founder		2018 - present
	Arizona State University, Phoenix, Ari Research Assistant Teaching Assistant	zona USA.	2003 - 2006 2002 - 2003

# ACADEMIC PROJECTS

- 1. Design and Development of IoT System Architecture with QoS Support, supported by **TUBITAK**, 119N049, 2020-2022.
- 2. Improving WebRTC Security via Blockchain Technology, Principal Investigator, supported by **ASELSAN**, 2019-2020.
- 3. Fog Computing Based Complex Event Processing and Content Curation for Internet of Things, Principal Investigator, supported by **TUBITAK**, 118E212, 2018-2021.
- Reconfigurable Network-on-Chips, Researcher, supported by TUBITAK, 117E130, 2017-2020.
- The Effects of Eye-Tracking Based and Parent Mediated Joint Attention Early Intervention Program on Social Communication Skills of Children with ASD, Researcher, Supported by TUBITAK, 115K459, 2015-2018.
- Energy Efficient Connected Dominating Set Based Virtual Backbone Construction in Wireless Sensor Networks via Multi Objective Evolutionary Algorithms, Principal Investigator, Supported by TUBITAK, 113E328, 2014-2016.
- 7. Development of a Sensor Network and Camera Based Hybrid Critical Area Surveillance System, Principal Investigator, Supported by **HAVELSAN A.S.** and **Ministry of Science, Industry and Technology**, 0211.STZ.2013-1, 2013-2015.
- 8. National Broadband Communication Infrastructure Planning Project, Principle Investigator, supported by Ministry of Transport, Maritime and Communications, 2012-2013.
- Energy Efficient Coverage in Wireless Sensor Networks using Genetic Algorithm, Principle Investigator, Supported by Gazi University Scientific Research Project Department, 06/2012-49, 2012-2014.
- User Profile Analysis in Social Networks Using Data Mining, Principle Investigator, Supported by Gazi University Scientific Research Project Department, 06/2011-41, 2011-2012.
- In-Network Outlier Detection Based Fault Tolerant Data Aggregation Protocols for Wireless Sensor Networks, Principle Investigator, Supported by Gazi University Scientific Research Project Department, 06/2011-09, 2011-2013.
- Wireless Sensor Network Based Border Surveillance System for Turkey's Border Security, Principle Investigator, Supported by Gazi University Scientific Research Project Department, 06/2008-44, 2008-2010.
- 13. Design of National IPv6 Infrastructure and Transition to IPv6 Protocol, Researcher, Supported by **TUBITAK**, 108G100, 2009-2011.

#### Industry Projects

- Intelligent Object / Personnel Tracking System with Multiple Sensor Fusion and Wireless Communication Technology, Researcher
  Supported by TUBITAK TEYDEB, 2019-2021.
- Intelligent Production Asset Management System, Consultant Supported by TUBITAK - TEYDEB, 2020-2022.
- Fog Computing Based Data Collection and Analysis System for IoT based Critical Infrastructures, Consultant Supported by TUBITAK - TEYDEB, 2018-2020.
- 4. Multi Sensor Based Indoor Positioning, Researcher Supported by **TUBITAK TEYDEB**, 2018-2019.
- 5. Fog Computing Based Data Collection and Analysis in IoT, *Principle Investigator* Supported by **AIR Telekomunikasyon Cozumleri Tic. San. A.S.**, 2017-2018.

- Real-Time Operational Intelligence, Consultant Supported by TUBITAK - TEYDEB, 2018-2020.
- Positive Security Based Web Application Firewall, Consultant Supported by TUBITAK - TEYDEB, 2016-2017.
- Hardened and Security-Enhanced Android, Consultant Supported by TUBITAK - TEYDEB, 2015-2016.

#### BOOK CHAPTERS

- 1. Metehan Guzel, Ibrahim Kok, Suat Ozdemir, "Recent trends in air quality prediction: An artificial intelligence perspective" in Intelligent Environmental Data Monitoring for Pollution Management, Elsevier, 2020.
- Feyza Y. Okay, Ibrahim Kok, Metehan Guzel, Suat Ozdemir, "Fog Computing Based Complex Event Processing for Internet of Things" in Big Data-Enabled Internet of Things, IET Press, London, UK. 2020.
- Suat Ozdemir, "Data Aggregation in Wireless Sensor Networks", in "RFID and Sensor Networks: Architectures, Protocols, Security and Integrations" Edited by Yan Zhang, Laurence T. Yang, Jiming Chen, pp. 297-323, Auerbach Publications, CRC Press, 2009.
- 4. Hasan Cam, Suat Ozdemir, "False Data Detection and Secure Data Aggregation in Wireless Sensor Networks", in "Security in Distributed, Grid, Mobile and Pervasive Computing", Edited by Prof. Yang Xiao, Auerbach Publications, CRC Press, April 2007.
- 5. Hasan Cam, Suat Ozdemir, H. Ozgur Sanli, and Prashant Nair, "Secure Differential Data Aggregation for Wireless Sensor Networks," in Sensor Network Operations, S. Phoha, T.F. La Porta, and C. Griffin (eds), pp. 422-441, ISBN: 0471719765, Wiley-IEEE Press, May 2006.

#### JOURNAL PAPERS

- 1. Oguzhan Akyildiz, Ibrahim Kok, Feyza Yildirim Okay, Suat Ozdemir "A P4-assisted task offloading scheme for Fog networks: An intelligent transportation system scenario", Internet of Things, 2023. (SCIE, Q1)
- 2. B Saovapakhiran, W Naruephiphat, C Charnsripinyo, S Baydere, Suat Ozdemir "QoE-Driven IoT Architecture: A Comprehensive Review on System and Resource Management", IEEE Access, 2022. (SCIE, Q1)
- 3. Ibrahim Kok, Feyza Yildirim Okay, Suat Ozdemir "FogAI: An AI-supported fog controller for next generation IoT", Internet of Things 19, 100572, 2022. (SCIE, Q1)
- 4. N Abdulla, M Demirci, S Ozdemir "Design and evaluation of adaptive deep learning models for weather forecasting", Engineering Applications of Artificial Intelligence 116, 105440 2 2022 (SCIE, Q2)
- 5. Ibrahim Kok, Suat Ozdemir "Content-centric data and computation offloading in Alsupported fog networks for next generation IoT", Pervasive and Mobile Computing 85, 101654, 2022. (SCIE, Q1)
- 6. Inan Kazanci, Suat Ozdemir and Suleyman Tosun "Computation Power and Energy Optimized Task Allocation in Internet of Things", IEEE Transactions on Network Service Management, 2022. (SCIE, Q1)
- Selma Dilek, Kerem Irgan, Metehan Guzel, Suat Ozdemir, Sebnem Baydere, Chalermpol Charnsripinyo "QoS-Aware IoT Networks and Protocols: A Comprehensive Survey", International Journal of Communication Systems, Wiley, 2022. (SCIE, Q2)
- 8. Metehan Guzel and Suat Ozdemir "Fair and Energy-Aware IoT Service Composition under QoS Constraints", The Journal of Supercomputing, 2022. (SCIE, Q2)

- 9. Selda Ozdemir, Isik Akin Bulbul, Ibrahim Kok, and Suat Ozdemir "Development of a visual attention based decision support system for autism spectrum disorder screening", International Journal of Psychophysiology, 2022. (SSCI)
- 10. Burcin Buket Ogul and Suat Ozdemir "Ranking surgical skills using an attentionenhanced Siamese network with piecewise aggregated kinematic data", International Journal of Computer Assisted Radiology and Surgery, 2022. (SCIE, Q2)
- 11. Burcin Buket Ogul and Suat Ozdemir "A Pairwise Deep Ranking Model for Relative Assessment of Parkinson's Disease Patients from Gait Signals" IEEE Access, 2021. (SCIE, Q1)
- 12. Egemen Sert, Oral Okan, Alper Ozbilen, Seyda Ertekin and Suat Ozdemir "Linking COVID-19 perception with socioeconomic conditions using Twitter data" IEEE Transactions on Computational Social Systems, 2021. (SCIE, Q1)
- 13. Gasmi Kaouther, Selma Dilek, Suleyman Tosun and Suat Ozdemir "A survey on computation offloading and service placement in fog computing-based IoT" The Journal of Supercomputing, Springer, 2021. (SCI, Q2)
- 14. Anil Ipek, Suleyman Tosun and Suat Ozdemir "HAFTA: Highly Adaptive Fault-Tolerant Routing Algorithm for 2D Network-on-Chips" Concurrency and Computation: Practice and Experience, 2021. (SCIE, Q2)
- 15. Bara'a A. Attea, Amenah D. Abbood, Ammar A. Hasan, Clara Pizzuti, Mayyadah Al-Ani, Suat Ozdemir and Rawaa Dawoud Al-Dabbagh "A Review of Heuristics and Metaheuristics for Community Detection in Complex Networks: Current Usage, Emerging Development and Future Directions" Swarm and Evolutionary Computation, Elsevier, 2021. (SCIE, Q1)
- 16. Mustafa Yildirim, Feyza Yildirim Okay and Suat Ozdemir "Big Data Analytics for Default Prediction using Graph Theory" Expert Systems with Applications, Elsevier, 2021. (SCIE, Q1)
- 17. M. Ulvi Simsek, Feyza Yildirim Okay and Suat Ozdemir "A deep learning-based CEP rule extraction framework for IoT data" The Journal of Supercomputing, Springer, 2021. (SCI, Q2)
- 18. Mehdi Nozad, Mohammad Masdari and Suat Ozdemir "QoS-Driven Metaheuristic Service Composition Schemes A Comprehensive Overview" Artificial Intelligence Review, Springer. (SCIE, Q1)
- 19. Ibrahim Kok and Suat Ozdemir "DeepMDP: A Novel Deep Learning Based Missing Data Prediction Protocol for IoT" IEEE Internet of Things Journal, 2020. (SCIE, Q1)
- 20. Feyza Yildirim Okay, Suat Ozdemir and Yang Xiao, "Fog Computing Based Privacy Preserving Data Aggregation Protocols", Transactions on Emerging Telecommunications Technologies, Wiley, 2020. (SCIE)
- 21. Mohammad Masdari and Suat Ozdemir, "Towards Coverage-Aware Fuzzy Logic-Based Faulty Node Detection in Heterogeneous Wireless Sensor Networks", Wireless Personal Communications, Springer, 2019. (SCIE)
- 22. Baraa Ali Attea, Huda M Rada, Mustafa Abbas and Suat Ozdemir, "A new evolutionary multi-objective community mining algorithm for signed networks", Applied Soft Computing, Elsevier, 2019. (SCI)
- Enan Khalil, Suat Ozdemir and Baraa Attea, "A New Task Allocation Protocol for Extending Stability and Operational Periods in Internet of Things", IEEE Internet of Things Journal, 2019. (SCIE)

- 24. Pinar Kullu, Yilmaz Ar, Suleyman Tosun and Suat Ozdemir, "Mapping application-specific topology to mesh topology with reconfigurable switches", IET Computers & Digital Techniques, IET, 2019. (SCIE)
- 25. Metehan Guzel, Ibrahim Kok, Diyar Akay and Suat Ozdemir, "ANFIS and Deep Learning based missing sensor data prediction in IoT", Concurrency and Computation: Practice and Experience, 2019. (SCIE)
- Baraa Ali Attea, Mustafa Abbas, Mayyadah Al-Ani and Suat Ozdemir, "Bio-Inspired Multi-objective Algorithms for Connected Set K-Covers Problem in Wireless Sensor Networks", Soft Computing, Springer, 2019. (SCIE)
- 27. Mohammad Masdari, Saeid Barshande and Suat Ozdemir, "CDABC: chaotic discrete artificial bee colony algorithm for multi-level clustering in large-scale WSNs", The Journal of Supercomputing, Springer, 2019. (SCIE)
- Feyza Yildirim Okay and Suat Ozdemir, "Routing in Fog-Enabled IoT Platforms: A Survey and an SDN-based Solution", IEEE Internet of Things Journal, Vol. 5, No 6, 4871 - 4889, 2018.
- 29. Enan A. Khalil, Suat Ozdemir and Suleyman Tosun, "Evolutionary Task Allocation in Internet of Things-Based Application Domains", Future Generation Computer Systems, Elsevier, vol. 86, pp. 121-133, 2018. (SCIE)
- 30. Betul Dundar, Diyar Akay, Fatih Emre Boran and Suat Ozdemir, "Fuzzy Quantification and Opinion Mining on Qualitative Data using Feature Reduction", International Journal of Intelligent Systems, Wiley, vol. 33, no. 9, Sept. 2018.
- 31. Mehmet U. Simsek, Feyza Y. Okay, Dilan Mert and Suat Ozdemir, "TPS3: A Privacy Preserving Data Collection Protocol for Smart Grids", Information Security Journal: A Global Perspective, Taylor & Francis, vol. 27, no. 2, pp. 102-118, 2018.
- 32. Muntaser A. Salman, Suat Ozdemir and Fatih Vehbi Celebi, "Fuzzy Traffic Control with Vehicle-to-Everything Communication" Sensors, MPDI, vol. 18, no. 2, p. 368, 2018.
- Alma Oracevic, Serkan Akbas, Suat Ozdemir, "Secure and Reliable Object Tracking in Wireless Sensor Networks", Computers and Security, Elsevier, vol. 70. pp. 307-318, 2017
- 34. Enan A. Khalil and Suat Ozdemir "Overview of Internet of Things: Concept, Characteristics, Challenges and Opportunities", Pamukkale University Journal of Engineering Sciences, (accepted).
- 35. Enan A. Khalil and Suat Ozdemir, "Reliable and Energy Efficient Topology Control in Probabilistic Wireless Sensor Networks via Multi-Objective Optimization", The Journal of Supercomputing, Springer, vol. 73, no.6, 2632-2656, 2017.
- 36. Bin Xu, Jianying Zheng, Qing Wang, Yang Xiao, Suat Ozdemir, "An Adaptive Vehicle Detection Algorithm Based on Magnetic Sensors in Intelligent Transportation Systems", Ad Hoc and Sensor Wireless Networks, vol. 36, no. 1-4, pp. 211-232, 2017.
- 37. A. Senoglu, U. Yavanoglu, Suat Ozdemir, "A New Supervised Epidemic Model for Intelligent Viral Content Classification", International Journal of Intelligent Systems and Applications in Engineering, vol.4, no:1, pp. 216-221..
- 38. Jianying Zheng, Qing Wang, Bin Xu, Wei Bi, Yanyun Tao, Yang Xiao, Suat Ozdemir, "Non-intrusive Traffic Data Collection with Wireless Sensor Networks for Intelligent Transportation Systems", Ad Hoc and Sensor Wireless Networks, vol. 34, no:1, pp.41-57, December 2016.

- 39. Feyza Yildirim Okay and Suat Ozdemir, "Improving Coverage in Wireless Sensor Networks Using Multi-Objective Evolutionary Algorithms", Journal of The Faculty of Engineering and Architecture of Gazi University, vol. 30, no. 2, pp. 143-153, June 2015.
- 40. Bara'a A. Attea, Enan A. Khalil, Suat Ozdemir, Oktay Yildiz, "A Multi-Objective Disjoint Set Covers for Reliable Lifetime Maximization of Wireless Sensor Networks", Wireless Personal Communications, Springer, vol. 81, no. 2, pp. 819-838, March 2015.
- 41. Suat Ozdemir, Miao Peng, and Yang Xiao, "PRDA: Polynomial Regression Based Privacy Preserving Data Aggregation in Wireless Sensor Networks", in Wireless Communications and Mobile Computing, Wiley, vol. 15, no. 4, pp. 615-628, March 2015.
- 42. Yang Xiao, Songqing Yue, Bo Fu, and Suat Ozdemir, "GlobalView: Building Global View with Log Files in a Distributed / Networked System for Accountability", Wiley Journal of Security and Communication Networks, no. 7, pp. 2564-2586, December 2014.
- 43. Bara'a A. Attea, Enan A. Khalil, and Suat Ozdemir, "Biologically Inspired Probabilistic Coverage for Mobile Sensor Networks", in Soft Computing, Springer, vol. 18, no. 11, pp. 2313-2322, December 2014.
- 44. Selma Dilek and Suat Ozdemir, "Wireless Sensor Network Applications in Healthcare", vol. 7, no. 2, pp. 7-19, May 2014.
- 45. Feyza Yildirim Okay and Suat Ozdemir, "Medium Access Protocols in Wireless Sensor Networks", in Journal of The Faculty of Engineering and Architecture of Gazi University, vol. 29. no. 1, pp. 49-59, 2014.
- 46. Cagdas Kurt and Suat Ozdemir, "User Identity Protection in Wireless Local Area Networks", in Gazi University Journal of Science, vol. 26, no. 4, pp. 563-571, 2013.
- 47. Ersin Elbasi and Suat Ozdemir, "Secure Data Aggregation in Wireless Multimedia Sensor Networks via Watermarking", Journal of The Faculty of Engineering and Architecture of Gazi University, vol. 28. no.3, pp. 587-594, Sep. 2013.
- 48. Serap Demircioglu and Suat Ozdemir, "Keyword Search in Relational Databases" (manuscript in Turkish), Journal of Informatics Technologies, vol.5, no.3, pp. 51-56, 2012.
- 49. Suat Ozdemir, Baraa A. Attea, and Onder Khalil, "Multi-objective Clustered-Based Routing with Coverage Control in Wireless Sensor Networks", Soft Computing, Springer, Volume 17, Issue 9, pp. 1573-1584, 2013.
- 50. Xiannuan Liang, Yang Xiao, Suat Ozdemir, Athanasios V. Vasilakos, and Hongmei Deng, "Cipher Feedback Mode under Go-back-N and Selective-reject Protocols in Error Channels", Security and Communication Networks, Wiley, Volume 6, Issue 8, pp. 942–954, 2013.
- 51. Suleyman Tosun, Yilmaz Ar, and Suat Ozdemir, "Heuristic and Genetic Algorithm based Application Specific Topology Generation for NoCs", IET Computers & Digital Techniques, 10.1049/iet-cdt.2011.0080.
- 52. Suat Ozdemir, Baraa Attea, and Onder Khalil, "Multi-objective Evolutionary Algorithm Based on Decomposition for Wireless Sensor Network Design", Wireless Personal Communications, Springer, Volume 71, Issue 1, pp. 195-215, 2013.
- 53. Suat Ozdemir and Yang Xiao, "FTDA: Outlier Detection Based Fault Tolerant Data Aggregation for Wireless Sensor Networks", Security and Communication Networks, Wiley, DOI: 10.1002/sec.604.
- 54. Onder Khalil and Suat Ozdemir, "Performance Evaluation of Key Management Schemes in Wireless Sensor Networks", Gazi University Journal of Science, vol.25, no. 2, 2012.

- 55. Suat Ozdemir and Yang Xiao, "Integrity Protecting Hierarchical Concealed Data Aggregation for Wireless Sensor Networks", Computer Networks, Elsevier, vol. 55, no. 6, pp. 1735-1746, 2011.
- Majid Meghdadi, Suat Ozdemir, Inan Guler, "A Survey of Wormhole-Based Attacks and Their Countermeasures in Wireless Sensor Networks", IETE Technical Review, vol. 28, no. 2, pp. 89-102, 2011.
- 57. Jing Liu, Yang Xiao, Hui Chen, Suat Ozdemir, Srinivas Dodle, and Vikas Singh, "A Survey of Payment Card Industry (PCI) Data Security Standard", IEEE Communications Surveys and Tutorials, vol. 12, no. 3, pp. 287-303, 2010.
- 58. Suat Ozdemir and Hasan Cam, "Integration of False Data Detection with Data Aggregation and Confidential Transmission in Wireless Sensor Networks", IEEE/ACM Transactions on Networking, vol.18, no.3, pp. 736-749, Jun. 2010.
- 59. Suat Ozdemir, "Concealed Data Aggregation in Heterogeneous Wireless Sensor Network Based Border Surveillance Systems", (manuscript in Turkish), Journal of The Faculty of Engineering and Architecture of Gazi University, vol. 25. no.1, pp. 131-139, Mar. 2010.
- Suat Ozdemir and Yang Xiao, "Secure Data Aggregation in Wireless Sensor Networks: A Comprehensive Overview", Computer Networks, Elsevier, vol.53, no 12, pp. 2022-2037, 2009.
- 61. Suat Ozdemir, "Secure Load Balancing via Hierarchical Data Aggregation in Heterogeneous Sensor Networks", Journal of Information Science and Engineering (JISE), vol. 25, no. 6, pp.1691-1705, Nov. 2009.
- Suat Ozdemir, "Functional Reputation Based Reliable Data Aggregation and Transmission for Wireless Sensor Networks", Computer Communications, Elsevier, vol. 31, no. 17, pp. 3941-3953, Nov. 2008.
- 63. F. Karabiber, A. Sertbas, Suat Ozdemir and H. Cam, "An Efficient Memory Allocation Algorithm and Hardware Design with VHDL Synthesis", International Journal of Electronics, Taylor and Francis, Vol. 95, No. 2, pp. 125-138, Feb. 2008.
- 64. Suat Ozdemir, "Secure Data Aggregation in Wireless Sensor Networks via Homomorphic Encryption" (manuscript in Turkish), Journal of The Faculty of Engineering and Architecture of Gazi University, vol.23, no.2, pp. 365-373, 2008.
- 65. Majid Meghdadi, Suat Ozdemir, Inan Guler, "Security in Wireless Sensor Networks: Problems and Solutions" (manuscript in Turkish), Journal of Informatics Technologies, vol.1, no.1, pp. 35-42, 2008.
- 66. Suat Ozdemir, "Wireless Sensor Network Security: A Comprehensive Overview", Journal of Polytechnic, vol.11, no.3, pp. 207-214, 2008.
- 67. Suat Ozdemir, "Remote Health Monitoring Using Wireless Body Area Networks", ZKU Technology Journal, vol. 11, no. 3, pp. 167-175, 2008.
- Suat Ozdemir, "False data detection in wireless sensor networks via Merkle Hash Trees", SDU Journal of Natural and Applied Sciences, vol.11, no.3, pp. 239-245, 2007.
- Suat Ozdemir, "Secure and Reliable Data Aggregation for Wireless Sensor Networks",
   LNCS 4836, H. Ichikawa et al. (Eds.), pp. 102-109, 2007.
- H. Cam, Suat Ozdemir, P. Nair, D. Muthuavinashiappan, and H.O. Sanli, "Energy-Efficient Secure Pattern Based Data Aggregation for Wireless Sensor Networks," Computer Communications, Elsevier, vol. 29, no. 4, pp. 446-455, 2006.

# Conference Papers

- 1. M. Emir Cakici, F. Y. Okay and S. Ozdemir, Real-time Aircraft Tracking System: A Survey and A Deep Learning Based Model, Proc. of IEEE ISNCC, 2021.
- 2. N. Abdulla, M. Demirci and S. Ozdemir, Adaptive Learning on Fog-Cloud Collaborative Architecture for Stream Data Processing, Proc. of IEEE ISNCC, 2021.
- 3. F. Y. Okay, M. Yildirim and S. Ozdemir, Interpretable Machine Learning: A Case Study of Healthcare, Proc. of IEEE ISNCC, 2021.
- 4. B. Dundar, D. Akay and S. Ozdemir, Linguistic Descriptions of Airport Evaluation Data for Recommendation Strategies, Proc. of IEEE ISNCC, 2021.
- B. H. Çorak, I. Kok and S. Ozdemir, A Novel Low-Latency and Cost-Effective Communication Protocol Design for Internet of Flying Things, Proc. of IEEE ISNCC, 2021.
- M. Yildirim, F. Y. Okay and S. Ozdemir, Sentiment Analysis for Turkish Unstructured Data by Machine Translation, Proc. of IEEE Big Data, 2020.
- H. I. Dede, C. Timurkaan, M. Guzel and S. Ozdemir, A Novel Weighted FP-Stream Algorithm for IoT Data Streams, Proc. of IEEE Big Data, 2020.
- 8. B. Yilmaz, E. Barak and S. Ozdemir, Improving WebRTC Security via Blockchain Based Smart Contracts, Proc. of IEEE ISNCC, 2020.
- 9. E. Unsal, B. Oztekin, M. Çavus and S. Ozdemir, Building a Fintech Ecosystem: Design and Development of a Fintech API Gateway, Proc. of IEEE ISNCC, 2020.
- Ibrahim Kok and Suat Ozdemir, Deep Learning based Delay and Bandwidth Efficient Data Transmission in IoT, Proc. of IEEE Big Data 2019, Dec. 9-12, Los Angeles, CA, USA.
- 11. Beyza Bagiroz, Metehan Guzel, Uraz Yavanoglu, and Suat Ozdemir, QoS Prediction Methods in IoT: A Survey, Proc. of IEEE Big Data 2019, Dec. 9-12, Los Angeles, CA, USA.
- 12. Feyza Yildirim Okay and Suat Ozdemir, A secure data aggregation protocol for fog computing based smart grids, Proc. of CPE-POWERENG 2018, Doha, Qatar.
- 13. Mehmet Ulvi Şimşek and Suat Ozdemir, CEP Rule Extraction From Unlabeled Data in IoT, Proc. of UBMK 2018, Sarajevo, Bosnia Herzegovina.
- 14. Feyza Yildirim Okay and Suat Ozdemir, Efficient and Secure Coverage Control in Internet of Things, Proc. of UBMK 2018, Sarajevo, Bosnia Herzegovina.
- 15. Berat Yılmaz and Suat Ozdemir, Performance comparison of cryptographic algorithms in internet of things, Proc. of SIU 2018, İzmir, Turkey.
- Ibrahim Kok, Mehmet Ulvi Simsek and Suat Ozdemir, A deep learning model for air quality prediction in smart cities, Proc. of IEEE Big Data 2017, Dec. 11-14, Boston, MA, USA.
- 17. Muntaser A. Salman, Suat Ozdemir and F. Vehbi Celebi, Traffic signal control with vehicle to everything communication, Proc. of CSEIT-2017 Dubai, UAE, November 25-26, 2017.
- 18. Celalettin Uyar, Ismail Dervisoglu, Metehan Guzel and Suat Ozdemir, Multi Sensor Based Indoor Positioning, Proc. of UBMK 2017, Oct. 05-08, Antalya, Turkey.
- 19. Ibrahim Kok, Murat Emre Davarci and Suat Ozdemir, A Hybrid Approach to Increase Classification Accuracy, Proc. of UBMK 2017, Oct. 05-08, Antalya, Turkey.
- 20. Muntaser A. Salman, Suat Ozdemir and F. Vehbi Celebi, Traffic Delay Estimation With V2X Communication For An Isolated Intersection, Proc. of ICET 2017, Aug. 21-23, Antalya, Turkey.

- 21. Alma Oracevic, Selma Dilek and Suat Ozdemir, "Security in Internet of Things: A Survey", Proc. of ISNCC 2017, May. 16-18, Marrakech, Morocco.
- Mert Özçelik, Erdal Irmak and Suat Ozdemir, "A Hybrid Trust Based Intrusion Detection System for Wireless Sensor Networks", Proc. of ISNCC 2017, May. 16-18, Marrakech, Morocco.
- 23. Muntaser A. Salman, Suat Ozdemir and F. Vehbi Çelebi, "Fuzzy Logic Based Traffic Surveillance System Using Cooperative V2X Protocols with Low Penetration Rate", Proc. of ISNCC 2017, May. 16-18, Marrakech, Morocco.
- Serap Dorterler, Murat Dorterler and Suat Ozdemir, "Multi-Objective Virtual Machine Placement Optimization for Cloud Computing", Proc. of ISNCC 2017, May. 16-18, Marrakech, Morocco.
- 25. Betul Dundar, Diyar Akay and Suat Ozdemir, "Opinion Mining and Fuzzy Quantification in Hotel Reviews", Proc. of ISNCC 2016, May. 11-13, Hammamet, Tunisia.
- Feyza Yıldırım Okay and Suat Ozdemir, "A Fog Computing Based Smart Grid Model", Proc. of ISNCC 2016, May. 11-13, Hammamet, Tunisia.
- 27. Betul Dundar, Diyar Akay and Suat Ozdemir, "Linguistic Summarization of Restaurant Evaluation Data Set Using Type-I and Type-II Fuzzy Quantified Sentence" in Proc. of The 4th International Fuzzy Systems Symposium (FUZZYSS'15), Nov. 5-6, Istanbul, Turkey.
- 28. Dilan Mert, Mehmet Ulvi Simsek and Suat Ozdemir, "Privacy Preserving Metering Protocol in Smart Grids" in Proc. of The 11th International Conference on Artificial Intelligence Applications and Innovations (AIAI'15), Sept. 14-17, Bayonne/Biarritz France
- 29. Enan Khalil and Suat Ozdemir, "Prolonging Stability Period of CDS Based Wireless Sensor Networks" in Proc. of IWCMC 2015, August 24-27, Dubrovnik, Croatia.
- 30. Enan Khalil and Suat Ozdemir, "CDS Based Reliable Topology Control in Wireless Sensor Networks" in Proc. of ISNCC 2015, May. 13-15, Hammamet, Tunisia.
- 31. Alma Oracevic, Serkan Akbas, Suat Ozdemir an Mladen Klos, "Secure Target Detection and Tracking in Mission Critical Wireless Sensor Networks" in Proc. of IEEE ASID 2014, Macau, China.
- 32. Serkan Akbas, M. Akif Efe and Suat Ozdemir, "Performance Evaluation of PIR Sensor Deployment in Critical Area Surveillance Networks" in Proc. of IEEE DCOSS, May 26 28 2014, Marina Del Rey, California.
- 33. Alma Oracevic and Suat Ozdemir, "Secure and Reliable Prediction Based Target Tracking For Wireless Sensor Networks" in Proc. of ISMS 2014, 27 29 January 2014, Langkawi, Malaysia.
- 34. Feyza Yıldırım Okay, Suat Ozdemir, S. Sagiroglu, Secure Routing Protocols in Wireless Sensor Networks, Proc. of ISCTURKEY 2014, Istanbul, Turkey, 2014.
- 35. Alma Oracevic and Suat Ozdemir, "A Survey of Secure Target Tracking Algorithms for Wireless Sensor Networks" in Proc. of ICNCA 2014, January 17-19 Hammamet, Tunisia.
- 36. Enan Khalil and Suat Ozdemir, "Energy Aware Evolutionary Routing Protocol with Probabilistic Sensing Model and Wake-Up Scheduling" in Proc. of IEEE GLOBECOM 2013, Dec. 9-13, Atlanta, GA.
- 37. Kubra Calis and Suat Ozdemir, "Next Generation Wireless Broadband Technologies and Turkey", in Proc. of AB 2013, Antalya, Turkey, Jan. 2013.

- 38. Suat Ozdemir, Baraa A. Attea, and Onder A. Khalil, Bio-Inspired Algorithms for Coverage Efficiency in Wireless Sensor Networks, in Proc. of ICCNDT 2012, 10-13 Nov. 2012, Bahrain.
- 39. Mehmet Ulvi Simsek and Suat Ozdemir "Analysis of the Relation between Turkish Twitter Messages and Stock Market Index", in Proc. of AICT 2012, Georgia, Tbilisi, 17-19 October 2012.
- 40. Ersin Elbasi and Suat Ozdemir, "Secure Data Aggregation in Wireless Multimedia Sensor Networks via Watermarking", in Proc. of AICT 2012, Georgia, Tbilisi, 17-19 October 2012.
- 41. Bara'a Attea, Feyza Okay Yildirim, Suat Ozdemir and M. Ali Akcayol, "Multi-objective Evolutionary Algorithm Based on Decomposition for Efficient Coverage Control in Mobile Sensor Networks", in Proc. of AICT 2012, Georgia, Tbilisi, 17-19 October 2012.
- 42. Suleyman Tosun, Yilmaz Ar, and Suat Ozdemir, "Power-aware topology generation for application specific NoC design", in Proc. of AICT 2012, Georgia, Tbilisi, 17-19 October 2012.
- 43. Feyza Yildirim Okay and Suat Ozdemir "Secure Medium Access Protocols in Wireless Sensor Networks", in Proc. of ISCTURKEY 2012, Ankara, Turkey.
- 44. Uraz Yavanoglu, Suat Ozdemir and S. Sagiroglu "IPv6 Worm Propagation Attacks and Countermeasures", in Proc. of ISCTURKEY 2012, Ankara, Turkey.
- 45. Seda Yilmaz and Suat Ozdemir, "Wireless Multimedia Sensor Networks", in Proc. of AB, Feb. 2012, Usak, Turkey.
- 46. Suat Ozdemir and Yang Xiao, "Polynomial Regression Based Secure Data Aggregation for Wireless Sensor Networks", in Proc. of IEEE GLOBECOM 2011, Dec. 5-9, Houston, TX.
- 47. Mehmet Ulvi Simsek, Suat Ozdemir and Hacer Karacan, "Data Mining in Social Networks", in Proc. of Bilisim 2011, 26-28 Oct., Ankara, Turkey.
- 48. Suat Ozdemir and Yang Xiao, "Outlier Detection Based Fault Tolerant Data Aggregation for Wireless Sensor Networks", in Proc. of AICT 2011, Oct. 12-14, Azerbaijan, Baku.
- Hacer Karacan and Suat Ozdemir, "Graphical Relative Location Based One Time Password System for Internet Banking", (manuscript in Turkish), in Proc. of ISC-TURKEY 2010, May 6-7, Ankara, Turkey.
- 50. Suat Ozdemir and Yang Xiao, "Hierarchical Concealed Data Aggregation for Wireless Sensor Networks", in Proc. of Embedded Systems and Communications Security Workshop in conjunction with IEEE SRDS 2009, September 27-29, Niagara Falls, NY.
- 51. Suat Ozdemir, Majid Meghdadi, Inan Guler, "A time and trust based worm hole detection algorithm for wireless sensor networks" (manuscript in Turkish), in Proc. of ISCTURKEY 2008, December 25-27, Ankara, Turkey.
- 52. Suat Ozdemir, "Functional Reputation Based Data Aggregation for Wireless Sensor Networks", in Proc. of IEEE WiMob 2008, October 12-14, Avignon, France.
- 53. Majid Meghdadi, Suat Ozdemir, Inan Guler, "An Algorithm for Defending Black-Hole Attacks in Wireless Sensor Networks" (manuscript in Turkish), in Proc. of HABTEKUS 2008, October 22-24, Istanbul, Turkey.
- 54. Suat Ozdemir, "Secure Load Balancing for Wireless Sensor Networks via Inter Cluster Relaying", in Proc. of ISCTURKEY 2007, December 13-14, Ankara, Turkey.

- 55. Suat Ozdemir, "Concealed Data Aggregation in Heterogeneous Sensor Networks using Privacy Homomorphism", in Proc. of ICPS 2007: IEEE International Conference on Pervasive Services, July 15-20, Istanbul, Turkey.
- 56. Suat Ozdemir, "Energy efficient link layer security solution for wireless LANs", in Proc. of SPIE Defense and Security Symposium 2006, April 16-18, Orlando, FL.
- 57. Suat Ozdemir, "Energy efficient false data detection in wireless sensor networks", in Proc. of SPIE Defense and Security Symposium 2006, April 16-18, Orlando, FL.
- 58. Suat Ozdemir and Hasan Cam, "Key establishment with source coding and reconciliation for wireless sensor networks," in Proc. of IEEE IPCCC 2006, April 10-12, 2006, Phoenix, AZ.
- 59. Suat Ozdemir, "Energy Efficient False Data Detection in Wireless Sensor Networks Using Merkle Hash Trees", in Proc. of Symposium on Research in Engineering and Applied Sciences (REAS'05), September 30, Arizona State University, Tempe, AZ.
- Hidayet Ozgur Sanli, Suat Ozdemir, and Hasan Cam, "SRDA: Secure Reference-Based Data Aggregation Protocol for Wireless Sensor Networks", in Proc. of IEEE VTC Fall 2004 Conference, Sept. 26-29, 2004, Los Angeles, CA, USA.
- 61. Suat Ozdemir, Prashant Nair, "Wireless Sensor Network Security", in Proc. of Symposium on Research in Engineering; Applied Sciences (REAS'03), September 3, Arizona State University, Tempe, AZ.
- 62. Hasan Cam, Suat Ozdemir, Prashant Nair and Devasenapathy Muthuavinashiappan, "ESPDA: Energy-Efficient and Secure Pattern-Based Data Aggregation for Wireless Sensor Networks", in Proc. of IEEE Sensors 2003 Conference, October 22-24, Toronto, Canada, 2003.
- 63. Hasan Cam, Suat Ozdemir, Devasenapathy Muthuavinashiappan, and Prashant Nair, "Energy-efficient security protocol for wireless sensor networks", in Proc. of IEEE VTC Fall 2003 Conference, October 4-9, 2003, Orlando, FL, USA.

Talks

- 1. Suat Ozdemir, "Fog Computing IoT", TOBB-ETU University, Computer Engineering Department, Apr. 2017.
- 2. Suat Ozdemir, "Cyber Security in IoT", International Cyber Security Workshop, Turkey, Istanbul, May. 2016.
- 3. Suat Ozdemir, "Wireless Sensor Networks", Hacettepe University, Computer Engineering Department, Oct. 2014.
- 4. Suat Ozdemir, "National Broadband Network Project", Workshop on Optical / Broadband network and related solutions in Turkey, Istanbul, Dec. 2012.
- 5. Suat Ozdemir, "Improving trustworthiness of future heterogeneous networks", FP7 Trustworthy ICT InfoDay, Brussels, Belgium, Sept. 2011.
- 6. Suat Ozdemir, "Wireless Sensor Networks", Polytechnic School of Alcala University, Alcala, Spain, May 2009.

# Poster Presentations

- 1. Suleyman Tosun, Yilmaz Ar, and Suat Ozdemir, "Energy Efficient Application Specific Topology Generation for Network-on-Chip (NoC) Design" ERA-NET CHIST-ERA, September 2011, Ireland.
- 2. Hasan Cam, Suat Ozdemir and H. Ozgur Sanli, "Intruder Detection and Tracking for Critical Area Surveillance Sensor Networks", Consortium for Embedded Systems, New Initiatives Workshop November 14, 2005, Tempe, AZ, USA.

3. Hasan Cam and Suat Ozdemir, "Mobile Patient Monitoring Using Wireless Networks and Healthcare Grid, Consortium for Embedded Systems, New Initiatives Workshop - November 14, 2005, Tempe, AZ, USA.

#### SUPERVISED MSC AND PhD THESES

- Majid Meghdadi (PhD), co-supervised with Prof. Dr. Inan Guler, A Security Protocol for Sinkhole Attacks in Wireless Sensor Networks, Jun. 2010.
- 2. Alma Oracevic (**PhD**), co-supervised with Prof. Dr. Mladen Kos , Secure Target Detection in Wireless Sensor Networks, Feb. 2016.
- 3. Muntaser A. Salman (**PhD**), co-supervised with Prof. Dr. Fatih V. Celebi , Fuzzy Traffic Signal Control using Vehicular Ad Hoc Networks, March 2018.
- 4. Enan A. Khalil (**PhD**), Efficient Task Distribution in Internet of Things Based Systems, Feb. 2019.
- 5. Feyza Yıldırım Okay (**PhD**), Secure Fog Computing for Internet of Things Based Systems, June 2019.
- Ibrahim Kok (PhD), Deep learning based data analysis and information extraction in the internet of things, 2020.
- 7. Mehmet Ulvi Simsek (PhD), Complex event processing in internet of things, 2021.
- 8. Mustafa Yildirim (**PhD**), Using Big Data, Internet of Things and Deep Learning Approaches for Financial Time Series Analysis, 2021.
- Metehan Güzel (PhD), Improving the Quality of Service in the Internet of Things, 2022.
- 10. Burçin Buket Oğul ( ${\bf PhD}$ ), Action Quality Assessment With Multivariate Time Series, 2022.
- 11. Maral A. Mustafa (MSc), Performance Analysis and Simulation of Mobile AdHoc Network Unicast Routing Protocols, Oct. 2010.
- 12. Mehmet Sukru Aygun (MSc), A Novel DCN Planning for SDH Networks, Jan. 2011.
- 13. Onder Khalil (MSc), Performance Analysis of Key Distribution Schemes in Wireless Sensor Networks , Jun. 2011.
- 14. Syolai M. Taha (MSc), Document Clustering using Text Mining, Nov. 2011.
- 15. Arda Ozturk (MSc), Data Aggregation in Wireless Sensor Networks Feb. 2012.
- 16. Serap Karadag (MSc), Keyword-Based Search in Databases, April 2012.
- Mehmet Ulvi Simsek (MSc), A Data Mining Application for Social Networks, Sept. 2012.
- 18. Mustafa Abdul Kareem (MSc), Security in IEEE 802.11 Networks, Sept. 2012.
- 19. Cagdas Kurt (MSc), An EAP Based Authentication Protocol for Wireless Networks, Jan. 2013.
- 20. Feyza Yildirim Okay (MSc), Efficient Secure Coverage Control With Multi-Objective Evolutionary Algorithm in Wireless Sensor Networks, July 2013.
- 21. Fatih Atak (MSc), Implementing Data Mining Applications over Real-world Network Data , Feb. 2014.
- Mustafa Yildirim (MSc), Authentication and Access Control in Wireless Networks, Feb. 2014.
- 23. Serkan Akbas (MSc), Efficient Secure Target Tracking in Wireless Sensor Network Based Critical Area Surveillance Systems, Jun. 2014
- Altynay Zhexembayeva (MSc), Link Layer Security for Wireless Sensor Networks, Oct. 2015.

- 25. Betul Dundar (MSc), Linguistic Summarization and Opinion Mining in Service Industry Data Sets, Apr. 2016.
- 26. Abdulkerim Senoglu (MSc), A New Supervised Epidemic Model for Intelligent Viral Content Classification, Sep. 2016.
- Dilan Mert (MSc), Privacy Preserving Data Gathering Protocol for Smart Grids, Dec. 2016.
- 28. Selma Dilek (MSc), Internet of Things Based Remote Health Monitoring Application, Jan. 2017.
- 29. Murat Emre Davarci (MSc), Malware Detection Using Ensemble Classifiers for Android Operating System, Jun. 2018.
- 30. Berat Yilmaz (MSc), Improving WebRTC communication security by using blockchain based smart contrats, 2019.
- 31. Melis Biyikli (MSc), Application of reusability methods within the scope of software-product line architecture for task planning software in radar and electronic warfare projects, 2020.
- 32. Amina Kofre (MSc), Frequent pattern analysis in the internet of things, 2020.

# Professional Service

# Independent Expert:

For several FP7 Project Calls 2010-

CHIST-ERA Evaluation Board Member 2022-

#### **Editorial Board Member:**

International Journal of Distributed Sensor Networks (SCI-Expanded) International Journal Engineering Science and Technology (SCI-Expanded)

#### Organizing Committee Member:

IEEE SmartNets - General Chair 2023

IEEE ISNCC - Track Chair 2020-2022

IEEE ISNCC - General Chair 2019

IEEE ISNCC - Track Chair 2018

IEEE ISNCC 2017

IEEE ISNCC 2016

Information Security and Cryptography Conference, 2010

Information Security and Cryptography Conference, 2008

Information Security and Cryptography Conference, 2007

# **Technical Program Committee Member:**

IEEE Big Data 2019

IEEE ICC 2006, 2007, 2008, 2009, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018

IEEE LCN 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019

IWCMC 2014, 2015, 2016, 2017

IEEE GLOBECOM 2006, 2007, 2008, 2009, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018

IEEE International Smart Cities Conference (ISC2) 2016

IEEE ICCVE 2003, 2014,2015

#### Memberships

**IEEE**