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INTERESTS

- Video Streaming Systems
- Software Defined Networking (SDN) and Network Function Virtualization (NFV)
- Computer Networks
- Peer-to-Peer (P2P) Networks
- Distributed Systems

PUBLICATIONS

Journal Articles

[1] Sayit, M., Cetinkaya, C., Yildiz, H.U., Tavli, B. (2019) "DASH-QoS: A scalable network layer service differentiation architecture for DASH over SDN",Computer Networks, Vol. 154, pp. 12-25,

[2] Demirci, S., Yardimci, A., Sayit, M., Tunali, T., Bulut, H. (2017) "A hierarchical P2P clustering framework for video streaming systems", Elsevier Computer Standards & Interfaces, Vol. 49, pp.44-58.

[3] Karayer E., Sayit, M. (2016) "A path selection approach with genetic algorithm for P2P video streaming systems", Multimedia Tools and Applications, DOI: 10.1007/s11042-015-2912-y, Vol. 75(23), pp.16039-16057.

[4] Uzakgider T., Cetinkaya C., Sayit, M. (2015) "Learning-based approach for layered adaptive video streaming over SDN", Computer Networks- Special Issue: SDN, DOI: doi:10.1016/j.comnet.2015.09.027, Vol. 92, pp. 357-368.

[5] Sayit M., Demirci S., Kaymak Y. and Tunali ET. (2015) "Adaptive, incentive and scalable dynamic tree overlay for P2P live video streaming", Peer-to-Peer Networking and Applications, DOI: 10.1007/s12083-015-0390-7.

[6] Yildirim, S., Sayit, M. and Kardas, G. (2015) "A belief-desire-intention agent architecture for partner selection in peer-to-peer live video streaming applications", Expert Systems, vol. 32, no. 3, pp. 327-343, DOI: 10.1111/exsy.12086

[7] Tunali, E.T. and Sayit, M. (2014) "Optimal backup parent pools for resilient multicast trees on peer to peer networks", Turkish Journal of Electrical Engineering & Computer Sciences, vol. 23, pp. 1338-1356, DOI: 10.3906/elk-1211-146.

[8] Sayit, M. and Tunali, E.T. (2015) "Mesh-pull backup parent pools for video-on-demand multicast trees", International Journal of Computer Network and Communications, vol.6, no.2, pp. 27-38.

[9] Teket, K. D., Sayit, M. and Kardas, G. (2014) "Software agents for peer-to-peer video streaming", IET Software, vol. 8, no. 4, pp. 184-192, DOI: 10.1049/iet-sen.2013.0181.

[10] Fesci-Sayit, M., Tunali, E.T. and Tekalp, A.M. (2012) "Resilient peer-to-peer streaming of scalable video over hierarchical multicast trees with backup parent

pools", Elsevier Signal Processing: Image Communication, vol. 27, no. 2, pp. 113-125, http://dx.doi.org/10.1016/j.image.2011.11.004.

[11] Sayit, M. and Tunali, E.T. (2011) "Multicast tree construction for peer to peer video streaming systems", International Journal of Nature and Engineering Sciences, vol. 5, no.3, pp. 67 – 70.

[12] Sayıt, M. ve Tunalı E.T. (2011) "Adaptive video streaming with H.264 SP frames", Pamukkale University Journal of Engineering Sciences, vol. 18, no. 2, pp. 78-83, DOI: 10.5505/pajes.2012.25744, (in Turkish).

Conference and Workshop Papers

[13] Kalan R.S., Begen, A.C. and Sayit, M. (2018), "Implementation of SAND Architecture Using SDN", 2018 IEEE NFV-SDN Conference, Verona, Italy.

[14] Kalan, R.S, Bikas, S., Kheibari, B., and Sayit, M. (2018) "SDN-CPS: Selecting Codec, Path and Server for Video Streaming over SDN", 26th IEEE Signal Processing and Communications Applications Conference (SIU) / Çeşme - İzmir - Turkey

[15] Clayman, S., Kalan, R. S. and Sayit, M. (2018) "Virtualized Cache Placement in an SDN/NFV Assisted SAND Architecture," 2018 IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom), Batumi, pp. 1-5.

[16] Shokri, R., Cetinkaya, C., Sayit, M. (2017) "Design of A Layer-based Video Streaming System over Software-Defined Networks", 8th International Conference on the Network of the Future (NoF 17), London, United Kingdom.

[17] Herguner, K., Shokri, R., Cetinkaya, C., Sayit, M. (2017) "Towards QoS-aware Routing for DASH Utilizing MPTCP over SDN", IEEE Conference on Network Function Virtualization and Software Defined Network (NFV-SDN'17), Berlin, Germany.

[18] Ozcan, S.G., Kıvılcım, T., Cetinkaya C., Sayit, M. (2017) "Rate Adaptation Algorithm with Backward Quality Increasing Property for SVC-DASH", in proceedings of the IEEE 4th International Conference on Consumer Electronics - Berlin (ICCE-Berlin), Germany, 2017.

[19] Bikas, S., Cetinkaya C., Sayit, M. (2017) "Evaluation of MPTCP Congestion Control for DASH", in proceedings of the IEEE 7th International Conference on Consumer Electronics - Berlin (ICCE-Berlin), Germany, 2017.

[20] Cetinkaya, C., Sayit, M. (2016) "Video-on-demand system architecture with ALTO-SDN integration ", IEEE Black Sea Conference on Communications and Networking (BlackSeaCom).

[21] Kaysudu, E., Cetinkaya, C., Herguner, K., Sayıt, M. (2016) "Server selection for video streaming applications over Software Defined Networks", IEEE Signal Processing and Communications Applications Conference.

[22] Cetinkaya, C., Özveren, Y., Sayit, M. (2015) "An sdn-assisted system design for improving performance of svc-dash", FedCsis Conference, IEEE, Poland.

[23] Özveren, Y., Çetinkaya, C., Sayıt, M. (2015) "Performance evaluation of DASH rate adaptation algorithms ", IEEE Signal Processing and Communications Applications Conference.

[24] Çetinkaya, C., Özveren, Y., Sayıt, M (2015) "Route optimization for DASH over Software Defined Networks", IEEE Signal Processing and Communications Applications Conference.

[25] Cetinkaya, C., Karayer, E., Sayit, M., Hellge, C. (2014) "SDN for segment based flow routing of DASH", In proceedings of the 4th IEEE International Conference on Consumer Electronics - Berlin (IEEE 2014 ICCE-Berlin), 8-11 September 2014, Berlin, Germany, IEEE Conference Publications, pp.74-77.

[26] Sayit, M., Karayer, E., Teket, K. D., Kaymak, Y., Cetinkaya, C., Demirci, S. and Kardas, G. (2013) "A score-based packet retransmission approach for push-pull p2p streaming systems", In proceedings of the 6th International Symposium on Multimedia Applications and Processing (MMAP 2013), 2013 Federated Conference on Computer Science and Information Systems (FedCSIS 2013), 8-11 September

2013, Krakow, Poland, IEEE Conference Publications, pp. 627-633.

[27] Kaymak, Y., Teket, K.D., Sayıt, M. (2013) "A Study on ALTO-Assisted P2P live video streaming", In proceedings of the High Performance Computing and Simulation (HPCS 2013), 1-5 July 2013, Helsinki, Finland, pp. 87-90, DOI: 10.1109/HPCSim.2013.6641397.

[28] Teket, K. D., Kaymak, Y., Sayit, M. and Kardas, G. (2013) "Engineering a multi-agent system for peer-to-peer video streaming", In proceedings of 2013 IEEE International Symposium on Innovations in Intelligent Systems and Applications (INISTA 2013), 19-21 June 2013, Albena, Bulgaria, IEEE Computer Society, pp. 1-7, DOI: 10.1109/INISTA.2013.6577655.

[29] Teket, K. D. and Sayit, M. (2013) "P2P video streaming with ALTO protocol: A simulation study", In proceedings of IEEE International Symposium on Broadband Multimedia Systems and Broadcasting (BMSB 2013), 5-7 June 2013, Londan, İngiltere, pp. 1-6, DOI: 10.1109/BMSB.2013.6621763.

[30] Kaymak, Y., Teket, K.D., Sayıt, M. (2013) "Parameter analysis for a push/pull-based P2P live video streaming application", In proceedings of the 21th IEEE Signal Processing and Communications Applications Conference (SIU 2013), 24-26 April 2013, Haspolat, Cyprus, pp. 1-4, DOI: 10.1109/SIU.2013.6531588 (in Turkish).

[31] Sayit, M., Kaymak, Y., Teket, K.D., Cetinkaya, C., Demirci, S. and Kardas, G. (2013) "Parent selection via reinforcement learning in mesh-based P2P video streaming", In proceedings of the 10th International Conference on Information Technology: New Generations (ITNG 2013), 15-17 Nisan 2013, Las Vegas, Nevada, USA, IEEE Conference Publications, pp. 546-551, DOI: 10.1109/ITNG.2013.89.

[32] Sayıt, M., Sönmez, O. (2012) "Reinforcement learning for peer to peer video streaming applications", In proceedings of the 20th IEEE Signal Processing and Communications Applications Conference (SIU 2012), 18-20 April 2012, Mugla, Turkey, pp. 1-4 (in Turkish).

[33] Sayıt M., Demirci S., Kaymak Y., Bulut H., Tunalı E.T. (2011) "Multicast tree based video streaming application over Planetlab", In proceedings of the 19th 21th IEEE Signal Processing and Communications Applications Conference (SIU 2011), 20-22 April 2011, Antalya, Turkey, pp. 331-334, DOI: 10.1109/SIU.2011.5929654, (in Turkish).

[34] Bulut H., Yardimci A., Demirci S., Kaymak Y., Sayit M.F., Tunali E.T. (2010) "An efficient JSD-based search on interest-based hierarchical clustering of overlay networks", In proceedings of the 2nd International Conference on Advances in P2P Systems (AP2PS 2010), 25-30 October 2010, Florence, Italy, pp. 63-69.

[35] Sayit, M.F., Tunali, E.T., Tekalp, A.M. (2009) "Bandwidth aware multiple multicast tree formation for P2P scalable video streaming using hierarchical clusters", In proceedings of the 16th IEEE International Conference on Image Processing (ICIP 2009), 7-10 November 2009, Egypt, pp. 945-948, DOI: 10.1109/ICIP.2009.5414021.

[36] Sayit, M. and Seckin, G. (2007) "Scalable video with RAPTOR for wireless multicast networks", In proceedings of IEEE Packet Video (PV 2007), 12-13 November 2007, Lausanne, Switzerland, pp. 336-341, DOI: 10.1109/PACKET.2007.4397058.

[37] Sayıt, M.F. and Tunalı, E.T. (2006) "Video streaming with H.264 over the Internet", In proceedings of the 21th IEEE Signal Processing and Communications Applications Conference (SIU 2006), 17-19 Nisan 2006, Antalya, Turkey, pp. 1-4, DOI: 10.1109/SIU.2006.1659854, (in Turkish).

Dissertation and Theses

[38] **Sayıt, M.** (2011) "*Hierarchical Peer to Peer Streaming with Scalable Video Codec*", Ph.D. Dissertation, Ege University, Turkey, 148 pages (in Turkish).

[39] **Sayıt, M.** (2005) "*Compressing Video for Quality Adaptive Streaming over the Internet*", M.Sc. Thesis, Ege University, Turkey, 111 pages (in Turkish).

[40] **Sayıt, M.** (1999) "*Enhanced and Extended Fibonacci Cubes*", B.Sc. Thesis, Ege University, Turkey, 45 pages (in Turkish).

PROFESSIONAL ACTIVITIES

- Completed projects:
  - ***"Design of a Resilient Network Control Solution Leveraging on SDN and MPTCP"***, April 2018, Under COST action CA15127 RECODIS: Resilient communication services protecting end-user applications from disaster-based failures (Host: Dr. Stefano Secci, LIP6, Sorbonne University, Paris, France)
  - ***"The Integration of ALTO protocol and SDN (Software Defined Networking) Technology for Maximizing Quality of Experience in Video Streaming Applications"***, 2015 – 2018, TUBITAK Academic Research Funding Program Directorate (ARDEB) Electrical, Electronics and Informatics Research Grant Committee (EEEAG) funded research project (with project no: 115E449)
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  - ***"Dynamic Adaptive HTTP Video Streaming over Software Defined Networks (SDN)"***, 2014 – 2016, TUBITAK Academic Research Funding Program Directorate (ARDEB) Electrical, Electronics and Informatics Research Grant Committee (EEEAG) funded research project (with project no: 114E409)
  - ***"Improvement of Cloud-based Data Services using Software Defined Networking (SDN) Architecture"***, 2014 - 2016, Research project funded by the Scientific Research Projects Directorate of Ege University
  - ***"Development of an Agent based Alternative Path Selection Method for Peer-to-Peer Video Streaming Applications"***, 2011 - 2013, TUBITAK Academic Research Funding Program Directorate (ARDEB) Electrical, Electronics and Informatics Research Grant Committee (EEEAG) funded research project (with project no: 111E022) (worked as the researcher/specialist)
  - ***"Developing of a Distributed Network Monitoring System"***, 2012 - 2014, Research project funded by the Scientific Research Projects Directorate of Ege University (with project no: 2012/UBE/001) (worked as the principal investigator)
  - ***"Scalable Clustering and Video Streaming in Peer-to-Peer Networks"***, 2008 - 2011, TUBITAK ARDEB-MAG funded research project (with project no: 108M411) (worked as the researcher)
  - ***"3G Wireless Multicasting"***, 2004 - 2007, VIDIATOR TECHNOLOGY(US), WA, USA and TUBITAK ARDEB-EEEAG funded research project (with project no: 104E163)
  - ***"Design and Implementation of Digital Document System"***, 2008 - 2010, Research project funded by the Scientific Research Projects Directorate of Ege University (with project no: 2008/UBE/001) (worked as the researcher)

- Industrial consultancies for the following corporations:
  - Pikotek Mechanic and Control Systems, Izmir - Turkey (2013 – 2014, 2015-2017)
  - Vidiator Technology (US) Inc., Seattle - USA (2006-2008)

- Organizing and Technical Program Committee memberships
  - ICIN 2019 (Innovation in Clouds, Internet and Networks) Publication Co-Chair and TPC member
  - IEEE ICC-NGNI 2019 (Next Generation Networking and Internet Symposium)
  - ACM Multimedia Systems 2019 TPC member
  - IEEE PVE-SDN 2018 Workshop Approaches, Analyses, and Performance Issues in Virtualized Environments and Software Defined Networking, Co-located with the IEEE Conference on Network Softwarization (NetSoft 2018), Montreal, Canada, June 25 or 29, 2018 – Steering Committee member
  - IEEE ICNP 2017 Workshop PVE-SDN (Approaches, Analyses, and Performance Issues in Virtualized Environments and Software Defined Networking), Toronto, Canada, 2017 Technical Program Committee member
  - IEEE SİU 'Software Defined Networks' Workshop 2017 - Organizing Chair
  - IEEE SİU 2015, 2016, 2017 - Technical Program Committee member

- 25th European Association for Education in Electrical and Information Engineering Annual Conference (EAEEIE 2014), May 30-31, 2014, Cesme, Izmir, Turkey - Organizing Committee member
- Fifteenth Turkish Symposium on Artificial Intelligence and Neural Networks (TAINN 2006), June 21-24, 2006, Akyaka, Mugla, Turkey - Organizing Committee member

- Invited Talks
  - Video Streaming over SDN, Loughborough University-London, UK, November, 2017.
  - P2P Video Streaming and SDN, Fraunhofer Heinrich Hertz Institute, Berlin, Germany, September, 2013
  - P2P Video Streaming Systems, Ozyegin University, Turkey, June, 2012.

WORK EXPERIENCE

Associate Professor
since March 2017   Ege University International Computer Institute, Izmir, TURKEY
- Courses taught: "Computer Networks I", "Computer Networks II", "Digital Data Communications", "Video Codec Design and Video Streaming", "Probability and Statistics" and "Discrete Mathematics"

Assistant Professor
February 2012 - 2017   Ege University International Computer Institute, Izmir, TURKEY

Research Assistant
December 2002 – February 2012   Ege University International Computer Institute, Izmir, TURKEY

Software Developer
November 1999 – March 2001 TANSAS Inc., Izmir, TURKEY

EDUCATION

2005 - 2011   Ph.D. in Information Technologies, Ege University Graduate School of Natural and Applied Sciences, Izmir, TURKEY

2001 – 2005   M.Sc. in Information Technologies, Ege University Graduate School of Natural and Applied Sciences, Izmir, TURKEY

1995 – 1999   B.Sc. in Department of Mathematics (Part of Computer Science), Ege University Faculty of Science, Izmir, TURKEY

AWARDS

Awards:
- (2017) Distinguished paper award for the publication titled "*Rate Adaptation Algorithm with Backward Quality Increasing Property for SVC-DASH*" - by the 7th IEEE International Conference on Consumer Electronics - Berlin (IEEE 2014 ICCE-Berlin) technical committee
- (2017) TUBITAK Turkish Academic Network and Information Centre (ULAKBIM) International Scientific Publication Promotion
- (2014) Best paper award for the publication titled "*SDN for Segment based Flow Routing of DASH*" - by the 4th IEEE International Conference on Consumer Electronics - Berlin (IEEE 2014 ICCE-Berlin) technical committee
- (2012) TUBITAK Turkish Academic Network and Information Centre (ULAKBIM) International Scientific Publication Promotion

- (2012) Ege University Science and Technology Center (EBILTEM) Publication Award

REFERENCES

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