



# Süleyman EKEN

*PhD Candidate in Computer Engineering*

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## Contact Information

*Kocaeli University – Department of Computer Engineering  
41380 – Kocaeli, Turkey*

- +90 (262) 303 3580 • [suleyman.eken@kocaeli.edu.tr](mailto:suleyman.eken@kocaeli.edu.tr)
- [google scholar profile](#) [researchgate profile](#) [dblp profile](#)

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## Research Interests

Satellite image processing, image registration, vectorization, spatial databases, geometric GIS problems, parallel and distributed computing, big data tools

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## Education

- 2012-... **PhD in Computer Engineering**, Kocaeli University, GPA: 3.73/4.00.  
Thesis Title: High-Performance Object Extraction Architecture based on MapReduce Framework  
Advisor: Ahmet Sayar, PhD
- 2010-2012 **MSc in Computer Engineering**, Kocaeli University, GPA: 3.75/4.00.  
Thesis Title: Vector Modelling of Island Satellite Images for Distributed Systems and Spatio-Temporal Analysis  
Advisor: Ahmet Sayar, PhD
- 2004-2009 **BSc in Computer Engineering**, Karadeniz Technical University, GPA: 2.92/4.00.  
Class Rank: 4<sup>th</sup> (Top 10%)  
Thesis Title: Real-Time Face Detection  
Advisor: Murat Ekinici, PhD
- 2001-2004 **High School**, Dumlupınar Lisesi, GPA: 5.00/5.00.  
School Rank: 1<sup>th</sup> (Top 5%)

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## Experience

- 2010-... **Research and Teaching Assistant**, Kocaeli University – Department of Computer Engineering
  - o Assisted several BSc level courses including;
    - C Programming
    - Fundamentals of Electric Circuits and Applications
    - Introduction to Distributed Systems
    - Digital Circuits
    - Spatial Databases
    - Computer Networks

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- <http://akademikpersonel.kocaeli.edu.tr/suleyman.eken/index.php>

- Software Engineering
- Participated in several research projects (Details in the Projects section)
- Published several papers and attended conferences (Details in the Publications)

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## Languages

Turkish	<b>Native</b>
English	<b>Advanced</b>
Arabic	<b>Intermediate</b>

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## Ongoing Projects

- 2017-2019 Scholarship student, **“Real-time Distributed and Scalable Vehicle Search-Recognition System,”** funded by The Scientific and Technological Research Council of Turkey.
- 2016-2017 Principle Investigator, **“MAHREÇ: Mobile Based Improvement of Letter Pronunciation Disorders,”** funded by The Scientific and Technological Research Council of Turkey.
- 2016-2018 Scholarship student, **“A MapReduce based distributed and scalable big-data framework for object extraction from mosaic satellite images”,** funded by The Scientific and Technological Research Council of Turkey.

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## Completed Projects

- 2016-2016 Researcher, **“An Intelligent Traffic Management System: Real-Time Vehicle Classification in Traffic Video Streams and Transferring Classified Images using Distributed Messaging Protocol”,** funded by Kocaeli University Scientific Research and Development Support Program.
- 2013-2015 Scholarship student,, **“Local Cloud Server (Proxy) Based Effective Data Storage and Content Distribution Management System”,** funded by The Scientific and Technological Research Council of Turkey.
- 2013-2015 Researcher, **“Extraction of Island Objects from the Satellite Mosaic Images and Modeling them for High Performance Spatio-Temporal Analysis”,** funded by Kocaeli University Scientific Research and Development Support Program.

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## Publications

Book

Chapters

1. **Süleyman Eken**, Fidan Kaya Gülağız, Ahmet Sayar, Adnan Kavak, Zana İlhan, Umut Kocasaraç. *Mobile Networks and Management*. Chapter on A Novel Signaling Protocol (ARCSPXP): Case Study on Synchronization of Educational Data. Editors: Ramón Agüero, Yasir Zaki, Bernd-Ludwig Wenning, Anna Förster, Andreas Timm-Giel. Springer-Verlag Berlin Heidelberg, 2017.

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2. Burak Köse, **Süleyman Eken**, Ahmet Sayar. *Advances in Big Data*. Chapter on Playlist Generation via Vector Representation of Songs. Editors: Plamen Angelov, Yannis Manolopoulos, Lazaros Iliadis, Asim Roy, Marley Vellasco. *Advances in Intelligent Systems and Computing*, Springer-Verlag Berlin Heidelberg, 2016.
3. **Süleyman Eken**, Umut Kızıgındere, Ahmet Sayar. *The Rise of Big Spatial Data*. Chapter on MapReduce based Scalable Range Query Architecture for Big Spatial Data. Editors: Igor Ivan, Alex Singleton, Jiří Horák, Tomáš Inspektor. Springer Series in Lecture Notes in Geoinformation and Cartography, Springer-Verlag Berlin Heidelberg, 2016.
4. **Süleyman Eken**, Fidan Kaya, Adnan Kavak, Ahmet Sayar, Suhap Şahin. *Wireless Internet*. Chapter on A method for localization of computational node and proxy server in educational data synchronization. Editors: Shahid Mumtaz, Jonathan Rodriguez, Marcos Katz, Chonggang Wang, Alberto Nascimento. Springer Series in Computer Communication Networks and Information Systems Applications 146, Springer-Verlag Berlin Heidelberg, 2015.
5. Ahmet Sayar, **Süleyman Eken**, Umit Mert. *Engineering Applications of Neural Networks*. Chapter on Tiling of Satellite Images to Capture an Island Object. Editors: Valeri Mladenov, Chrisina Jayne, Lazaros Iliadis. Springer Series in Communications in Computer and Information Science 459, Springer-Verlag Berlin Heidelberg, 2014.

Journal  
Papers  
(SCI, SCI-E)

1. Seda Kul, **Süleyman Eken**, **Ahmet Sayar**, "Distributed and Collaborative Real-time Vehicle Detection and Classification over the Video Streams," *International Journal of Advanced Robotic Systems*, 2017, doi: 10.1177/1729881417720782
2. **Süleyman Eken**, Ahmet Sayar, "An Automated Technique to Determine Spatiotemporal Changes in Satellite Island Images with Vectorization and Spatial Queries," *Sadhana - Academy Proceedings in Engineering Science*, 40(1), 121–137, 2015, doi: 10.1007/s12046-014-0309-7.
3. Ahmet Sayar, **Süleyman Eken**, Okan Öztürk, "Kd-tree and Quad-tree Decompositions for Declustering of 2-D Range Queries over Uncertain Space," *Frontiers of Information Technology & Electronic Engineering*, 16(2), 98-108, 2015, doi: 10.1631/FITEE.1400165.
4. **Süleyman Eken**, Abdülkadir Karabaş, Hayrunnisa Sarı, Ahmet Sayar, "A Framework for Recognition and Animation of Chess Moves Printed on a Chess Book," *The International Arab Journal of Information Technology* (in press), 2015.

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Journal  
Papers  
(Others)

5. Fidan Kaya, **Süleyman Eken**, Adnan Kavak, Ahmet Sayar, "Idle time estimation for bandwidth-efficient synchronization in replicated distributed file systems," The International Arab Journal of Information Technology (accepted), 2016.
1. **Süleyman Eken**, Ahmet Sayar, "Big data frameworks for efficient range queries to extract interested rectangular sub regions," International Journal of Computer Applications, 119(22), 36-39, 2015.
2. **Süleyman Eken**, Ekin Ekinci, Ahmet Sayar, "Understanding and Solving Turkish Arithmetic Problems via XML Keywords", Düzce Üniversitesi Bilim ve Teknoloji Dergisi, 2, 48-55, 2014. (in Turkish)
3. **Süleyman Eken**, Ahmet Sayar, "Designing a Web Based Smart Bus Stop System", Selcuk University Journal of the Engineering Science and Technology, 2(1), 57-64, 2014. (in Turkish)
4. **Süleyman Eken**, Kürşat Topçuoğlu, Ahmet Sayar, "AutoTest: Automation to Test Tabular Data Quality", International Journal of Computer and Electrical Engineering, 6(4), 365-368 ISSN: 1793-8163, 2014
5. Mustafa Ulvi, **Süleyman Eken**, Ahmet Sayar, "Service Oriented Visual Interpretation Tool for Time Series Data", Anadolu University Journal of Science and Technology –A Applied Sciences and Engineering, 14(3), 191-198, 2013.
6. **Süleyman Eken**, Ahmet Sayar, "Game-based Learning Approach to Binary Search Tree Operations", AWERProcedia Information Technology & Computer Science, 04, 234-238, 2013.
7. **Süleyman Eken**, Recep Bostancı, Ahmet Sayar, "Satellite Image Transferring in Distributed Systems: Comparison of Raster and Vector Representation", Journal of Aeronautics and Space Technologies (ISSN: 1304-0448), 6(1), 63-69, 2012.
8. **Süleyman Eken**, Saffet Türkoğlu, Ahmet Sayar, "Integration of OpenGL Graphic Libraries with Spatial Database as an Analysis and Visualization Tool", Journal of Technical-Online (ISSN 1302/6178), 11(3), 110-123, 2012.
9. **Süleyman Eken**, Ahmet Sayar, "Vectorization and Spatial Query Architecture on Island Satellite Images ", AWERProcedia Information Technology and Computer Science (ISSN: 2147-5105), 2, 37-43, 2012.

International  
Conference  
Papers

1. Fuat Bakkal, Nurullah Samed Savaş, **Süleyman Eken**, Ahmet Sayar, "Modeling and Querying Trajectories using Neo4j Spatial and TimeTree for Carpool

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- Matching," IEEE International Conference on INnovations in Intelligent Systems and Applications, 2017.
2. Seda Kul, **Süleyman Eken**, Ahmet Sayar, "Evaluation of Real-time Performance for BGSLibrary Algorithms: A Case Study on Traffic Surveillance Video," IEEE 6th International Conference on IT Convergence and Security, 2016.
  3. **Süleyman Eken**, Ahmet Sayar, "A MapReduce based Big-data Framework for Object Extraction from Mosaic Satellite Images," IoTBD 2016 International Conference on Internet of Things and Big Data (Doctoral Consortium), 14-18, 2016.
  4. Şerife Açıklın, **Süleyman Eken**, Ahmet Sayar, "Sleep Stage Classification: Scalability Evaluations of Distributed Approaches," The Third International Conference on Data Mining, Internet Computing, and Big Data, 113-117, 2016.
  5. Seda Kul, **Süleyman Eken**, Ahmet Sayar, "Measuring the Efficiencies of Vehicle Classification Algorithms on Traffic Surveillance Video," International Conference on Artificial Intelligence and Data Processing, 2016.
  6. Ömer Demircan , Süleyman Eken , Ahmet Sayar, "A scalable distributed query framework for unstructured big clinical data: A case study on diabetic records," International Conference on Artificial Intelligence and Data Processing, 2016.
  7. Fidan Kaya, **Süleyman Eken**, Zana İlhan, Adnan Kavak, Ahmet Sayar, Umut Kocasaraç, Suhap Şahin, "A Comparative Study of Signaling Protocols for Data Management and Synchronization in Fatih Project with School Level Cloud Proxy Server Deployment," IEEE Symposium on Network Cloud Computing and Applications, Italy, 13-136, 2014.
  8. **Süleyman Eken**, Fidan Kaya, Ahmet Sayar, Adnan Kavak, "Tracking a single node's availability for communication by means of observing local system resources," IEEE International Symposium on Innovations in Intelligent Systems and Applications, Italy, 41-45, 2014.
  9. **Süleyman Eken**, Ahmet Sayar, "A Smart Bus Tracking System Based on Location-Aware Services and QR Codes," IEEE International Symposium on Innovations in Intelligent Systems and Applications, 299-303, 2014.
  10. Abdurrahim ÖZEL, Çetin KAYA, **Süleyman Eken**, "JavaScript Vulnerabilities and Recent Solution Recommendation," ISCTurkey 2014 Proceedings, 7<sup>th</sup> International Conference on Information Security and Cryptology, 252-257, 2014.

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11. **Süleyman Eken**, Zana İlhan, Ahmet Sayar, Fidan Kaya, Umut Kocasaraç, Adnan Kavak, Suhap Şahin, "Analyzing Distributed File Synchronization Techniques for Educational Data," IEEE 10<sup>th</sup> International Conference on Electronics, Computer, and Computation, Ankara, 318-321, 2013.
  12. Ahmet Sayar, **Süleyman Eken**, Ümit Mert, "Registering LandSat-8 Mosaic Images: A Case Study on Marmara Sea," IEEE 10<sup>th</sup> International Conference on Electronics, Computer, and Computation, Ankara, 375-377, 2013.
  13. **Süleyman Eken**, Ahmet Sayar, "Animating Chess Moves Recorded on Chess Informant," 3rd International Symposium on Computing in Science & Engineering (ISCSE-2013), 35-40, 2013.
  14. **Süleyman Eken**, Ahmet Sayar, "Visual Analysis of Time and Location Dependent Data on the Maps," International Conference on Computing, Networking and Digital Technologies, 166-172, 2012.
  15. **Süleyman Eken**, Ahmet Sayar, "Performance Evaluations of Vector-Raster Satellite Image Transfers through Web Services", 2012 IEEE 36TH Annual Computer Software and Applications Conference (COMPSAC), 346-347, 2012.
  16. **Süleyman Eken**, Ahmet Sayar, "Vector Modelling of Island Satellite Images for Spatial Databases," International Science and Technology Conference, ISTEC'11, 25-30, 2011.
- National  
Conference  
Papers
1. Nurullah Samed Savaş, Fuat Bakkal, **Süleyman Eken**, Ahmet Sayar, "Gezinge Verisetlerinin Benzerliklerini Ölçmede Farklı Algoritmaların Değerlendirilmesi," 25. Sinyal İşleme ve İletişim Uygulamaları Kurultayı, 2017.
  2. **Süleyman Eken**, Ahmet Sayar, "Uydu Görüntülerinin Yüksek Performansta İşlenmesi Üzerine Bir İnceleme: Vektör Tabanlı Mozaik Örme Durum Çalışması," 6. Uzaktan Algılama ve CBS Sempozyumu, 2016.
  3. Yılmaz Yunus Akkoyunlu, **Süleyman Eken**, Ahmet Sayar, "HIPI ile Dağıtık Görüntü İşleme Çatısı: Yüz Bölgelerine Ait Biometrilere Saptama Performansının İncelenmesi," 10. Ulusal Yazılım Mühendisliği Sempozyumu, 2016.
  4. Ahmet Yavuz, **Süleyman Eken**, Ahmet Sayar, "Akademik Çalışmalara Hakem Ataması için Büyük Veri Altyapısı," 10. Ulusal Yazılım Mühendisliği Sempozyumu, 2016.
  5. Seda Kul, **Süleyman Eken**, Ahmet Sayar, "Video Gözetleme Sistemlerinde Terk

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Edilmiş Nesne Saptamak için Servis Odaklı Uyarı Sistemi," IEEE 23. Sinyal İşleme ve İletişim Uygulamaları Kurultayı, 2015.

6. Fidan Kaya Gülağz, **Süleyman Eken**, Adnan Kavak, Ahmet Sayar, "Senkronizasyon İşlemi için Uygun Zamanın Bulunması: Fatih Projesi Durum Çalışması," IEEE 23. Sinyal İşleme ve İletişim Uygulamaları Kurultayı, 2015.
7. **Süleyman Eken**, Ahmet Sayar, "Capcha Karakterlerinin Yapay Sinir Ağları Kullanılarak Tanınması," 7. Mühendislik ve Teknoloji Sempozyumu, Ankara, 2014.
8. **Süleyman Eken**, Fidan Kaya, Ahmet Sayar, Adnan Kavak, "Doküman Tabanlı NoSQL Veritabanları: MongoDB ve CouchDB yatay ölçeklenebilirlik karşılaştırması," 7. Mühendislik ve Teknoloji Sempozyumu, Ankara, 2014.
9. **Süleyman Eken**, Fidan Kaya, Kerem Çomak, Ahmet Sayar, Adnan Kavak, Suhap Şahin, "Fatih Projesinde Proxy Sunucunun Doğru Konumlandırıldığının Kontrol Edilmesi ve Tabletlerinin Yerini Tespit için Bir Metot," Elektrik-Elektronik, Bilgisayar ve Biyomedikal Mühendisliği Sempozyumu, 2014.
10. **Süleyman Eken**, Fidan Kaya, Ahmet Güngör, Ahmet Sayar, Adnan Kavak, Suhap Şahin, "Bulut-Vekil Sunucu ve Tabletler Arasında Veri Senkronizasyonu için RTT Kullanarak Farklı Kümeleme Metodlarının Değerlendirilmesi," Elektrik-Elektronik, Bilgisayar ve Biyomedikal Mühendisliği Sempozyumu, 2014.
11. Uğurcan Ergün, **Süleyman Eken**, Ahmet Sayar, "Güncel Dağıtık Dosya Sistemlerinin Karşılaştırmalı Analizi," 6. Mühendislik ve Teknoloji Sempozyumu, Ankara, 2013.
12. Abdürrahim Özel, Çetin Kaya, Ramazan Eşmeli, **Süleyman Eken**, Ahmet Sayar, "Web Servisler ile Paralel Görüntü İşlem Mimarisi: Raster İmgelerde Kenar Belirleme Uygulaması," Akıllı Sistemlerde Yenilikler ve Uygulamaları Sempozyumu (ASYU), 2012.

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## Technical Committees

Technical Referee for International Journals:

- The Imaging Science Journal (SCI): 2016-Present
- GIScience & Remote Sensing (SCI-E): 2016-Present
- Remote Sensing Letters (SCI-E): 2016-Present
- Peer-to-Peer Networking and Applications (SCI-E): 2016-Present
- Journal of Applied Remote Sensing (SCI-E): 2016-Present
- Journal of Network and Computer Applications (SCI-E): 2016-Present

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- <http://akademikpersonel.kocaeli.edu.tr/suleyman.eken/index.php>

- International Journal of Advanced Robotic Systems (SCI-E): 2015-present
- The International Arab Journal of Information Technology (SCI-E): 2015-present
- International Journal of Advanced Computer Science and Applications: 2015-present
- Journal of Computers (DBLP): 2015-present
- International Journal of Distributed and Parallel Systems (IJDPS): 2015-present
- International Journal of Distributed Systems and Technologies (DBLP): 2015-Present
- International Journal of High Performance Computing and Networking (DBLP): 2015-Present
- International Journal of Distributed Systems and Technologies (IJDST): 2016-Present

Program Committee for International Conferences:

- 2017: GEOProcessing, ALLDATA, iDSC, ICICS, SDS, ANT
- 2016: ICICS, UTMC, SEMCMI, EECEA, SDS, ANT, ICDIPC, BigData,
- 2015: ICDIPC, BigData, ICDMMIPA, BDIZSI, CSCESM, TAECE, BDSN, AEECT, ACIT, ICBE, DDDMBD

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### Participated Summer/Fall Schools and Workshops

- o Summer School on Earth Observation Applications 2016 (UYGU 2016), İstanbul Technical University, Turkey, 13-16 June, 2016.
- o Summer School on New Techniques in Machine Learning and Data Processing, Middle East Technical University, Turkey, 6-9 September, 2016.
- o Public Workshop on Big Data Analytics and Security, Gazi University, Turkey, 11 February, 2016.
- o 2016 Big Data Fall School, TÜBİTAK BİLGEM Information Technologies Institute, Turkey, 20-25 November, 2016.

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### Honours and Awards

- o International Scientific Publication Awards from the Scientific and Technical Research Council of Turkey (TÜBİTAK), 2015.
- o PhD Scholarship for Primary Areas from the Scientific and Technical Research Council of Turkey (TÜBİTAK), 2015.

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### Technical Skills

- o Java, C/C++, Matlab, Haskell, Prolog, SQL, Hadoop, CouchDB, MongoDB, Neo4J, Hbase, Lucene, Hive, Spark, PostGIS

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### References

**Prof. Ahmet Sayar**

Associate Professor  
Dept. of Computer Engineering  
Kocaeli University  
Kocaeli, Turkey

**Prof. Murat Ekinci**

Professor  
Dept. of Computer Engineering  
Karadeniz Technical University  
Trabzon, Turkey

*Kocaeli University – Department of Computer Engineering  
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- <http://akademikpersonel.kocaeli.edu.tr/suleyman.eken/index.php>



E-mail: ahmet.sayar@kocaeli.edu.tr

E-mail: ekinci@ktu.edu.tr

**Prof. Yaşar Becerikli**

Professor

Dept. of Computer Engineering

Kocaeli University

Kocaeli, Turkey

E-mail: ybecerikli@kocaeli.edu.tr

**Date of update:** 11 July, 2017

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