

Assoc. Prof. Serkan AYVAZ

Personal Information

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No:220 Esenler-İstanbul

International Researcher IDs

ScholarID: ihaclQAAAAJ

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Publons / Web Of Science ResearcherID: AAY-5208-2021

ScopusID: 56676074300

Yoksis Researcher ID: 272859

Education Information

Doctorate, Kent State University, College of Arts and Sciences, Computer Science, United States Of America 2010 - 2015
Postgraduate, Kent State University, College of Technology, Computer Technology, United States Of America 2006 - 2008
Undergraduate, Bahcesehir University, Faculty Of Arts And Sciences, Department Of Mathematics And Computer, Turkey
2001 - 2006

Foreign Languages

English, C2 Mastery

Dissertations

Doctorate, Near Neighbor Explorations for Keyword-based Semantic Searches using RDF Summary Graph, Kent State University, Computer Science, Computer Science, 2015

Research Areas

algorithms, Distributed Systems, Parallel Algorithms, Database and Data Structures, Artificial Intelligence, Computer Learning and Pattern Recognition, Software Engineering

Academic Titles / Tasks

Associate Professor, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2022 - Continues

Assistant Professor, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2021 - 2022

Assistant Professor, Bahcesehir University, Faculty Of Engineering And Natural Sciences, Department Of , 2020 - 2021

Assistant Professor, Bahcesehir University, Faculty Of Engineering And Natural Sciences, Department Of Software

Engineering, 2017 - 2020

Academic and Administrative Experience

Deputy Head of Department, Yildiz Technical University, Faculty Of Electrical & Electronics, Computer Engineering, 2023
- Continues

Program Koordinatörü, Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Bilgisayar Mühendisliği/Bilgi Teknolojileri Tezsiz Yüksek Lisans Programı , 2021 - 2023

Deputy Director of the Center, Bahcesehir University, 2018 - 2021

Enstitü Yönetim Kurulu Üyesi, Bahcesehir University, Institute Of Science, 2018 - 2020

Program Koordinatörü, Bahcesehir University, Institute Of Science, Department Of Big Data Analytics And Management (Interdisciplinary), 2017 - 2020

Courses

Business Intelligence, Postgraduate, 2021 - 2022

Doktora Semineri, Doctorate, 2021 - 2022

Applied Multivariate Statistical Analysis, Doctorate, 2021 - 2022

Introduction to Data Mining, Undergraduate, 2021 - 2022

Big Data Analytics, Postgraduate, 2021 - 2022

Software Architecture, Undergraduate, 2020 - 2021

Veritabanı Yönetimi, Undergraduate, 2021 - 2022

Pazarlama Analitiği, Postgraduate, 2021 - 2022

Marketing Analytics, Postgraduate, 2020 - 2021

Programming Languages, Undergraduate, 2020 - 2021

Introduction to Big Data, Postgraduate, 2020 - 2021

Advising Theses

Ayvaz S., Content-based spam detection in Twitter, Postgraduate, İ.YURTSEVEN(Student), 2022

Ayvaz S., Retweet count prediction by apriori in news tweets, Postgraduate, K.BENLİOĞLU(Student), 2022

Ayvaz S., Remaining useful lifetime prediction for predictive maintenance in manufacturing, Postgraduate, B.TAŞCI(Student), 2021

Ayvaz S., Electricity consumption forecasting during the Covid-19 Pandemic using mobility data, Postgraduate, E.MUCAN(Student), 2021

Ayvaz S., Comparative performance evaluation of hadoop on PaaS proposals by leveraging HiBench, Postgraduate, U.EMRE(Student), 2021

Ayvaz S., TOPIC MODELING AND SENTIMENT ANALYSIS OF COVID-19 PANDEMIC ON TWITTER, Postgraduate, H.ÖZGE(Student), 2021

Ayvaz S., Implementation of artificial intelligence in development of hyper-casual games to mimic human behavior, Postgraduate, K.ELCHUZADE(Student), 2021

Ayvaz S., Exploring the relationship between search volume index and stock market movements, Postgraduate, E.UĞUR(Student), 2021

Ayvaz S., Developing a deep learning approach for detecting brain cancer from mri images / Mrg görüntülerinden beyin kanserini saptamada derin öğrenme yaklaşımı geliştirmek, Postgraduate, A.TANASH(Student), 2020

Ayvaz S., ARAÇ ROTALAMA PROBLEMİNESEZGİSEL YAKLAŞIM ÇÖZÜMLERİ VE KARŞILAŞTIRMALARI İLE İLGİLİ BİR UYGULAMA, Postgraduate, H.KOÇBEY(Student), 2020

Ayvaz S., IMPLEMENTATION OF A BLOCKCHAIN NETWORK FOR AUTONOMOUS VEHICLE, Postgraduate,

M.MUNTASIR(Student), 2020

Ayvaz S., Forecasting electricity consumption using deep learning methods with hyperparameter tuning / Hiperparametre ayarlı derin öğrenme yöntemleri ile elektrik tüketiminin tahmini, Postgraduate, O.ARSLAN(Student), 2020

Ayvaz S., Topic modeling and sentiment analysis of hotel reviews / Otel yorumlarının konu modelleme ve duygu analizi, Postgraduate, F.CANER(Student), 2019

Ayvaz S., Real-time social media sentiment analysis using big data technologies / Büyük veri teknolojileriyle gerçek zamanlı sosyal medya duygu analizi, Postgraduate, M.SHEEHA(Student), 2019

Ayvaz S., Predicting bitcoin price with sentiment analysis of twitter and news data by including individual prediction rates / Twitterdaki kullanıcı yorumlarını ve haber sitelerindeki haberleri duygu analizi ederek, kullanıcıların doğruluk oranı kullanarak bitcoin fiyat tahmini, Postgraduate, A.NATHAN(Student), 2019

Ayvaz S., Building a hybrid recommender system using Apache Spark / Apache Spark kullanarak hibrit bir öneri sistemi oluşturulması, Postgraduate, M.ÇETİN(Student), 2019

Ayvaz S., Prediction of drug-drug interaction by using profile fingerprint vectors and protein similarities / İlaç-ilaç etkileşimlerini profil parmak izi vektörleri ve protein benzerlikleri kullanarak tahmin etme, Postgraduate, S.DERE(Student), 2019

Ayvaz S., Short term electricity consumption prediction with neural networks / Yapay sinir ağları ile kısa dönemli elektrik tüketimi tahminlemesi, Postgraduate, M.ALİ(Student), 2019

Ayvaz S., Information discovery using ontology and graph theory in semantic web content, Postgraduate, A.AKGÜN(Student), 2018

Ayvaz S., Implementing a Blockchain protocol and creating a digital asset transfer environment, Postgraduate, S.Cemil(Student), 2018

Ayvaz S., A stock trading application using deep learning, Postgraduate, H.Sercan(Student), 2018

Ayvaz S., Sentimental analysis by using tweets and Turkish lexicon, Postgraduate, S.Yıldırım(Student), 2018

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Developing linguistic patterns to mitigate inherent human bias in offensive language detection**
TANYEL T., TANYEL T., ALKURDI B., AYVAZ S., AYVAZ S.
Turkish Journal of Electrical Engineering and Computer Sciences, vol.32, no.6, pp.829-848, 2024 (SCI-Expanded)
- II. **Remaining useful lifetime prediction for predictive maintenance in manufacturing**
Tasci B., Omar A., Ayvaz S.
COMPUTERS & INDUSTRIAL ENGINEERING, vol.184, no.1, pp.1-19, 2023 (SCI-Expanded)
- III. **An experimental and comparative benchmark study examining resource utilization in managed Hadoop context**
Ozdil U. E., Ayvaz S.
CLUSTER COMPUTING-THE JOURNAL OF NETWORKS SOFTWARE TOOLS AND APPLICATIONS, vol.26, no.3, pp.1891-1915, 2023 (SCI-Expanded)
- IV. **Predictive maintenance system for production lines in manufacturing: A machine learning approach using IoT data in real-time**
Ayvaz S., Alpay K.
EXPERT SYSTEMS WITH APPLICATIONS, vol.173, 2021 (SCI-Expanded)
- V. **A Minimal Information Model for Potential Drug-Drug Interactions**
Hochheiser H., Jing X., Garcia E. A., Ayvaz S., Sahay R., Dumontier M., Banda J. M., Beyan O., Brochhausen M., Draper E., et al.
FRONTIERS IN PHARMACOLOGY, vol.11, 2021 (SCI-Expanded)
- VI. **Clinical significance of weight changes at diagnosis in solid tumours**
O'Donoghue N., Shrotriya S., Aktas A., Hullihen B., Ayvaz S., Estfan B., Walsh D.
SUPPORTIVE CARE IN CANCER, vol.27, no.7, pp.2725-2733, 2019 (SCI-Expanded)
- VII. **An improved method of locality-sensitive hashing for scalable instance matching**

- Aydar M., Ayvaz S.
KNOWLEDGE AND INFORMATION SYSTEMS, vol.58, no.2, pp.275-294, 2019 (SCI-Expanded)
- VIII. **Serum C-reactive protein is an important and powerful prognostic biomarker in most adult solid tumors**
Shrotriya S., Walsh D., Nowacki A. S., Lorton C., Aktas A., Hullihen B., Benanni-Baiti N., Hauser K., Ayvaz S., Estfan B.
PLOS ONE, vol.13, no.8, 2018 (SCI-Expanded)
- IX. **Sentiment analysis on Twitter: A text mining approach to the Syrian refugee crisis**
Ozturk N., Ayvaz S.
TELEMATICS AND INFORMATICS, vol.35, no.1, pp.136-147, 2018 (SSCI)
- X. **Drug-drug interaction discovery and demystification using Semantic Web technologies**
Noor A., Assiri A., Ayvaz S., Clark C., Dumontier M.
JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION, vol.24, no.3, pp.556-564, 2017 (SCI-Expanded)
- XI. **Toward a complete dataset of drug-drug interaction information from publicly available sources**
Ayvaz S., Horn J., Hassanzadeh O., Zhu Q., Stan J., Tatonetti N. P., Vilar S., Brochhausen M., Samwald M., Rastegar-Mojarad M., et al.
JOURNAL OF BIOMEDICAL INFORMATICS, vol.55, pp.206-217, 2015 (SCI-Expanded)

Articles Published in Other Journals

- I. **Sentiments towards Emergency Remote Teaching on Twitter: A Longitudinal Comparative Sentiment Analysis**
Caskurlu S., Ayvaz S., Kozan K.
RESEARCH ON EDUCATION AND PSYCHOLOGY, vol.7, pp.1-21, 2023 (Peer-Reviewed Journal)
- II. **Sigorta Sektöründe Sahte Hasarların Tahmini İçin Geliştirilen Makine Öğrenmesi Modellerinin Kıyaslanması**
Şahin Ö. E., Ayvaz S., Çamlıfıdan E.
Bilişim Teknolojileri Dergisi, vol.13, no.14, pp.479-489, 2020 (Peer-Reviewed Journal)
- III. **Türkiye’de Firmaların Büyük Veri Teknolojileri Bilinirliği ve Kullanımı Analizi**
Ayvaz S., Salman Y. B.
Avrupa Bilim ve Teknoloji Dergisi, no.18, pp.728-737, 2020 (Peer-Reviewed Journal)
- IV. **Prediction of Drug-Drug Interactions by Using Profile Fingerprint Vectors and Protein Similarities**
Dere S., Ayvaz S.
HEALTHCARE INFORMATICS RESEARCH, vol.26, no.1, pp.42-49, 2020 (ESCI)
- V. **Türkçe Duygu Kütüphanesi Geliştirme: Sosyal Medya Verileriyle Duygu Analizi Çalışması**
Yıldırım S., Salman Y. B., Ayvaz S.
Avrupa Bilim ve Teknoloji Dergisi, no.16, pp.51-60, 2019 (Peer-Reviewed Journal)
- VI. **Witness of Things Blockchain-based distributed decision record-keeping system for autonomous vehicles**
Ayvaz S., Cetin S. C.
INTERNATIONAL JOURNAL OF INTELLIGENT UNMANNED SYSTEMS, vol.7, no.2, pp.72-87, 2019 (ESCI)
- VII. **Understanding the Purchase Behaviour of Turkish Consumers in B2C E-Commerce**
Kahraman N., Tunga M. A., Ayvaz S., Salman Y. B.
International Journal of Intelligent Systems and Applications in Engineering, vol.7, no.1, pp.52-59, 2019 (Peer-Reviewed Journal)
- VIII. **Dynamic Discovery of Type Classes and Relations in Semantic Web Data**
Ayvaz S., Aydar M.
JOURNAL ON DATA SEMANTICS, vol.8, no.1, pp.57-75, 2019 (ESCI)
- IX. **A Suggestion-Based RDF Instance Matching System**
Aydar M., Ayvaz S.

- International Journal of Computer Theory and Engineering, vol.9, no.5, pp.380-384, 2017 (Peer-Reviewed Journal)
- X. **A deep learning approach for optimization of systematic signal detection in financial trading systems with big data**
Karaoglu S., Arpacı U., Ayvaz S.
International Journal of Intelligent Systems and Applications in Engineering, vol.2017, pp.31-36, 2017 (Peer-Reviewed Journal)
- XI. **The Effects of Emoji in Sentiment Analysis**
Shiha M. O., Ayvaz S.
International Journal of Computer Electrical Engineering, vol.9, no.1, pp.360-370, 2017 (Peer-Reviewed Journal)

Books & Book Chapters

- I. **Applications of Artificial Intelligence in Short-Term and Long-Term Forecasting Techniques**
Ayvaz S.
in: Applications of Artificial Intelligence in Planning and Operation of Smart Grids, Rahmani-Andebili, Editor, Springer Nature, Zürich, pp.97-132, 2022
- II. **Kimlik Sistemlerinde Blokzincir Kullanımı**
AYVAZ S., Çetin S. C., Aydar M.
in: SİBER GÜVENLİK VE SAVUNMA - Blokzincir ve Kriptoloji, Şeref Sağıroğlu, Sedat Akleyek, Editor, NOBEL AKADEMİK YAYINCILIK, Ankara, pp.117-164, 2021
- III. **Makine Öğrenmesi ile Tahmin: Akademik Başarı Örneği**
Akgün E., Salman Y. B., Ayvaz S., Karadeniz Ş.
in: Eğitimde Yapay Zeka: Kuramdan Uygulamaya, Vasif Nabiyev, Ali Kürşat Emürüt, Editor, Pegem A Yayıncılık, Ankara, pp.283-304, 2020
- IV. **Software Architecture Patterns in Big Data: Transition From Monolithic Architecture to Microservices**
Ayvaz S., Salman Y. B.
in: Applications and Approaches to Object-Oriented Software Design: Emerging Research and Opportunities, Zeynep Altan, Editor, IGI Global Publisher, Pennsylvania, pp.90-110, 2019

Refereed Congress / Symposium Publications in Proceedings

- I. **A Hybrid and Scalable Sentiment Analysis Framework: Case of Russo-Ukrainian War**
Allayla M. A., AYVAZ S.
3rd International Scientific Conference of Engineering Sciences, ISCES 2023, Diyala, Iraq, 3 - 04 May 2023, pp.13-18
- II. **A Blockchain-Based Secure Mutual Authentication System for E-Government Services**
Al-Ameri H. H., AYVAZ S.
3rd International Scientific Conference of Engineering Sciences, ISCES 2023, Diyala, Iraq, 3 - 04 May 2023, pp.19-24
- III. **Linguistic-based Data Augmentation Approach for Offensive Language Detection**
Tanyel T., Alkurdi B., Ayvaz S.
2022 7th International Conference on Computer Science and Engineering (UBMK), Diyarbakır, Turkey, 14 - 16 September 2022, pp.1-6
- IV. **Deep Transfer Learning and Data Augmentation for Food Image Classification**
Al-Rubaye D., Ayvaz S.
2022 Iraqi International Conference on Communication and Information Technologies, IICCIT 2022, Basra, Iraq, 7 - 08 September 2022, pp.125-130
- V. **A Review of Spam Detection in Social Media**

Yurtseven İ., BAĞRIYANIK S., AYVAZ S.

2021 6th International Conference on Computer Science and Engineering (UBMK), Ankara, Turkey, 15 September 2021

- VI. **Forecasting Electricity Consumption Using Deep Learning Methods with Hyperparameter Tuning**
Ayvaz S., Arslan O.
28th Signal Processing and Communications Applications Conference (SIU), ELECTR NETWORK, 5 - 07 October 2020
- VII. **A negative similarity based hybrid recommender system using apache spark**
Cetin M. F., Ayvaz S.
3rd International Conference on Advances in Artificial Intelligence, ICAAI 2019, İstanbul, Turkey, 26 - 28 October 2019, pp.166-172
- VIII. **A Scalable Streaming Big Data Architecture for Real-Time Sentiment Analysis**
Ayvaz S., Shiha M. O.
2nd International Conference on Cloud and Big Data Computing (ICCBDC) / 7th International Conference on Intelligent Information Processing (ICIIP), Barcelona, Spain, 3 - 05 August 2018, pp.47-51
- IX. **An Approach for Information Discovery Using Ontology In Semantic Web Content**
Akgun A., Ayvaz S.
International Conference on Information Science and System (ICISS), South Korea, 27 - 29 April 2018, pp.250-255
- X. **Using RDF Summary Graph For Keyword-based Semantic Searches**
Ayvaz S., Aydar M.
5 th International Conference on Technology and Sciences, İstanbul, Turkey, 9 - 12 May 2017, pp.330-336
- XI. **Automatic weight generation and class predicate stability in RDF summary graphs**
Aydar M., Ayvaz S., Melton A.
4th International Workshop on Intelligent Exploration of Semantic Data, IESD 2015 - co-located with the 14th International Semantic Web Conference, ISWC 2015, Pennsylvania, United States Of America, 12 October 2015, vol.1472
- XII. **Building Summary Graphs of RDF Data in Semantic Web**
Ayvaz S., Aydar M., Melton A.
39th IEEE Annual International Computer Software and Applications Conference Workshops (COMPSAC), T'ai-chung, Taiwan, 1 - 05 July 2015, pp.686-691

Supported Projects

YILMAZ M. B., TONBULOĞLU B., Arslan D., DİRİ B., ERKOÇ M. F., AYVAZ S., AKTAŞ M. S., ELBİR A., Project Supported by Higher Education Institutions, YÜnde Çevrimiçi İşlenen Derslerden Elde Edilen Verilerin Veri Analitiği Yöntemleri Kullanılarak İncelenmesi, 2022 - 2024

Ayvaz S., Sezgin B. H., TUBITAK Project, Uydu Yer Sistemleri için Endüstriyel Nesnelerin İnterneti Tabanlı Kestirimci Bakım Platformu Geliştirilmesi, 2019 - 2022

Ayvaz S., Şanal İ., TUBITAK Project, 119c118 E-Ticaret Alanında Yapay Zeka, Bilgi Güvenliği, Depo Optimizasyonu ve Veritabanı ve Veri Yapıları Konularında Uygulama ve Teknolojilerin Geliştirilmesi, 2020 - 2021

Ayvaz S., Project Supported by Higher Education Institutions, Yapay Zeka Temelli Türkçe Üniversite Kabul Başvurusu Değerlendirme Sistemi, 2020 - 2021

Ayvaz S., Özalın F., TUBITAK Project, Bebek Bezi Üretim Hattı Veri Analitiği Projesi, 2019 - 2020

Ayvaz S., Salman Y. B., Development Agency, İstanbul Big Data Eğitim ve Araştırma Merkezi, 2017 - 2018

Ayvaz S., Dursun İ., TUBITAK Project, Gelişmiş Batarya Yönetim Sistemi, 2017 - 2018

Scientific Refereeing

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE, National Scientific Refreed Journal, July

2021

COMPUTERS & INDUSTRIAL ENGINEERING, National Scientific Refreed Journal, April 2021

ARTIFICIAL INTELLIGENCE IN MEDICINE, SCI Journal, January 2021

BIG DATA & SOCIETY, Journal Indexed in SSCI, January 2021

JOURNAL OF INFORMATION SCIENCE, SCI Journal, December 2020

SOCIAL SCIENCE COMPUTER REVIEW, Journal Indexed in SSCI, November 2020

Digital Policy, Regulation and Governance, Journal Indexed in ESCI, September 2020

Healthcare Informatics Research, Journal Indexed in ESCI, May 2020

COMPUTER COMMUNICATIONS, SCI Journal, September 2019

VEHÍCULAR COMMUNİCATIONS, SCI Journal, June 2019

COMPUTER SYSTEMS SCIENCE AND ENGINEERING, SCI Journal, May 2019

IEEE TRANSACTIONS ON EMERGING TOPİCS İN COMPUTİNG, SCI Journal, November 2018

Health and Technology, Journal Indexed in ESCI, July 2018

JOURNAL OF BIOMEDICAL INFORMATICS, SCI Journal, February 2017

Metrics

Publication: 38

Citation (WoS): 300

Citation (Scopus): 641

H-Index (WoS): 6

H-Index (Scopus): 9

Awards

Ayvaz S., Çetin S. C., Emerald Literati Awards/Highly Commended Paper , Emerald Publishing, December 2020

Non Academic Experience

Hospital, Cleveland Clinic, eResearch

Company, HartvilleGroup, Yazılım Geliştirme