# Assoc. Prof. OSMAN ALTAY

## Personal Information

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**International Researcher IDs**
ScholarID: Ly3OZ5IAAAAJ
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ScopusID: 57203219794
Yoksis Researcher ID: 202845

## Education

Doctorate, Firat University, Turkey 2016 - 2020
Undergraduate, Firat University, Turkey 2015 - 2018
Postgraduate, Firat University, Turkey 2014 - 2016
Undergraduate, Selcuk University, Turkey 2005 - 2011

## Foreign Languages

English

## Dissertations

Doctorate, Kendiliğinden yerleşen çelik lifli beton performansını tahmin edecek sistemin modellenmesi, Firat University, 2020
Postgraduate, Genetik ve genetik olmayan faktörlere bağlı olarak türk hastalarda varfarin dozajını tahmin eden bir uzman sistem geliştirilmesi, Firat University, 2016

## Research Areas

**Avesis Research Areas:** Engineering and Technology
**WoS Research Areas:** Engineering Computing & Technology (Eng), Computer Science
**Scopus Research Areas:** Computer Science (miscellaneous)

## Academic Positions

Associate Professor, Manisa Celal Bayar University, Hasan Ferdi Turgutlu Teknoloji Fakültesi, Yazılım Mühendisliği, 2025 - Present
Assistant Professor, Manisa Celal Bayar University, Hasan Ferdi Turgutlu Teknoloji Fakültesi, Yazılım Mühendisliği, 2021 - 2025
Research Assistant, Manisa Celal Bayar University, Hasan Ferdi Turgutlu Teknoloji Fakültesi, Yazılım Mühendisliği, 2021 -

2021
Research Assistant, Firat University, 2019 - 2021
Research Assistant, Manisa Celal Bayar University, Hasan Ferdi Turgutlu Teknoloji Fakültesi, Yazılım Mühendisliği, 2018 - 2019
Research Assistant, Firat University, 2015 - 2018
Research Assistant, Manisa Celal Bayar University, Hasan Ferdi Turgutlu Teknoloji Fakültesi, Yazılım Mühendisliği, 2014 - 2015

## Academic and Administrative Experience

Internship Coordinator, Manisa Celal Bayar University, HASAN FERDİ TURGUTLU TEKNOLOJİ FAKÜLTESİ, YAZILIM MÜHENDİSLİĞİ, 2023 - Present

## Courses

**Postgraduate**
Veri Analitiği, Postgraduate, 2024 - 2025
Büyük Veri İşleme, Postgraduate, 2024 - 2025
**Undergraduate**
Veri Madenciliği, Undergraduate, 2025 - 2026, 2024 - 2025, 2023 - 2024
Nesneye Yönelik Programlama, Undergraduate, 2023-2024, 2022-2023
Sosyal Sorumluluk, Undergraduate, 2023-2024, 2022-2023, 2021-2022
Profesyonel Yazılım Geliştirme ll, Undergraduate, 2023-2024, 2022-2023
Olasılık ve İstatistik, Undergraduate, 2022-2023, 2021-2022
İşletmede Mesleki Eğitim, Undergraduate, 2022-2023, 2021-2022
Profesyonel Yazılım Geliştirme l, Undergraduate, 2022-2023, 2021-2022
Nesnelerin İnterneti, Undergraduate, 2022-2023, 2021-2022
Yazılım Mühendisliğinde Özel Konular, Undergraduate, 2022-2023
Python Programlama, Undergraduate, 2021-2022
**Undergraduate Double Major**
Veri Madenciliği ve Bilgi Keşfi, Undergraduate Double Major, 2022-2023, 2021-2022

## Supervised Theses

ALTAY O., Güncel Metasezgisel Yöntemlerin Kullanılarak Derin Öğrenme Yöntemlerinde Hiper Parametre Ayarlarının Araştırması, Postgraduate, S.ÇETİNER(Student), 2024
ALTAY O., Pediatrik Hastalarda Üriner Sistem Enfeksiyonunun Yapay Zeka Yöntemleri ile Araştırılması, Postgraduate, H.GÜNDOĞDU(Student), 2024

## Articles

I. **QualiGuard: An AI-driven risk-based quality gate for defect prediction and code smell detection in DevOps pipelines**
Kocakaplan B. M., BORANDAĞ E., ÖZÇEVİK Y., YÜCALAR F., ALTAY O.
SOFTWAREX, vol.36, 2026 (SCI-Expanded, Scopus)
II. **On the Use of an Extreme Learning Machine for GitHub Repository Popularity Prediction Based on Static Software Metrics**
BORANDAĞ E., YÜCALAR F., ÖZÇEVİK Y., ALTAY O.

ELECTRONICS, vol.15, no.10, 2026 (SCI-Expanded, Scopus)

III. **Digital guides in eye care: Comparing AI model accuracy and reliability**
Savaş H. V., ALTAY O.
DIGITAL HEALTH, vol.12, 2026 (SCI-Expanded, SSCI, Scopus)

IV. **Investigation of the Performance of Artificial Neural Networks Using Different Learning Algorithms in Biomedicine Datasets**
Ulas M., Altay O., Varol Altay E.
IEEE Access, vol.14, pp.4756-4791, 2026 (SCI-Expanded, Scopus)

V. **Predicting CPU Performance Score with Regression Analysis**
Kaya G., Emre , Altay O.
Dicle Üniversitesi Mühendislik Fakültesi Mühendislik Dergisi, vol.16, no.1, pp.1-11, 2025 (TRDizin)

VI. **GJO-MLP: A NOVEL METHOD FOR HYBRID METAHEURISTICS MULTI-LAYER PERCEPTRON AND A NEW APPROACH FOR PREDICTION OF WEAR LOSS OF AZ91D MAGNESIUM ALLOY WORN AT DRY, OIL, AND h-BN NANOADDITIVE OIL**
Altay O., Gurgenc T.
Surface Review and Letters, vol.31, no.6, 2024 (SCI-Expanded, Scopus)

VII. **Average Localization Error Prediction for 5G Networks: An Investigation of Different Machine Learning Algorithms**
ALTAY O., ÖZÇEVİK M., VAROL ALTAY E., ÖZÇEVİK Y.
Wireless Personal Communications, vol.136, no.1, pp.289-319, 2024 (SCI-Expanded, Scopus)

VIII. **AOSMA-MLP: A Novel Method for Hybrid Metaheuristics Artificial Neural Networks and a New Approach for Prediction of Geothermal Reservoir Temperature**
Gurgenc E., Altay O., Altay E.
APPLIED SCIENCES-BASEL, vol.14, no.8, 2024 (SCI-Expanded, Scopus)

IX. **A Comparative Study of Metaheuristic Optimization Algorithms for Solving Real-World Engineering Design Problems**
Altay E., ALTAY O., ÖZÇEVİK Y.
CMES-COMPUTER MODELING IN ENGINEERING & SCIENCES, vol.139, no.1, 2024 (SCI-Expanded, Scopus)

X. **A novel chaotic transient search optimization algorithm for global optimization, real-world engineering problems and feature selection**
ALTAY O., Altay E.
PEERJ COMPUTER SCIENCE, vol.9, 2023 (SCI-Expanded, Scopus)

XI. **MetricHunter: A software metric dataset generator utilizing SourceMonitor upon public GitHub repositories**
Özçevik Y., Altay O.
SoftwareX, vol.23, 2023 (SCI-Expanded, Scopus)

XII. **A novel hybrid multilayer perceptron neural network with improved grey wolf optimizer**
ALTAY O., VAROL ALTAY E.
NEURAL COMPUTING & APPLICATIONS, vol.35, no.1, pp.529-556, 2023 (SCI-Expanded, Scopus)

XIII. **Comparison of Current Metaheuristic Methods in Standard Benchmark Functions**
Altay O.
International Journal of Pure and Applied Sciences, vol.8, no.2, pp.286-301, 2022 (TRDizin)

XIV. **Investigation of Slime Mould Algorithm and Hybrid Slime Mould Algorithms Performance in Global Optimization Problems**
ALTAY O., VAROL ALTAY E.
Dicle Üniversitesi Mühendislik Fakültesi Mühendislik Dergisi, vol.13, no.4, pp.661-671, 2022 (TRDizin)

XV. Gürgenç T., Altay O.
Fırat Üniversitesi Mühendislik Bilimleri Dergisi, vol.34, no.2, pp.743-750, 2022 (TRDizin)

XVI. **Hybrid artificial neural network based on a metaheuristic optimization algorithm for the prediction of reservoir temperature using hydrogeochemical data of different geothermal areas in Anatolia (Turkey)**

Varol Altay E., Gurgenc E., Altay O., Dikici A.
Geothermics, vol.104, 2022 (SCI-Expanded, Scopus)

XVII. **Chaotic slime mould optimization algorithm for global optimization**
ALTAY O.
Artificial Intelligence Review, vol.55, no.5, pp.3979-4040, 2022 (SCI-Expanded, Scopus)

XVIII. **Surface roughness prediction of wire electric discharge machining (WEDM)-machined AZ91D magnesium alloy using multilayer perceptron, ensemble neural network, and evolving product-unit neural network**
Gurgenc T., Altay O.
Materialpruefung/Materials Testing, vol.64, no.3, pp.350-362, 2022 (SCI-Expanded, Scopus)

XIX. **Güncel metasezgisel optimizasyon algoritmalarının CEC2020 test fonksiyonları ile karşılaştırılması**
VAROL ALTAY E., ALTAY O.
Dicle Üniversitesi Mühendislik Fakültesi Mühendislik Dergisi, vol.12, no.5, pp.729-741, 2021 (TRDizin)

XX. **DCS-ELM: a novel method for extreme learning machine for regression problems and a new approach for the SFRSCC**
Altay O., Ulas M., Alyamac K. E.
PeerJ Computer Science, vol.7, pp.1-31, 2021 (SCI-Expanded, Scopus)

XXI. **A new approach for prediction of the wear loss of PTA surface coatings using artificial neural network and basic, kernel-based, and weighted extreme learning machine**
Ulas M., Altay O., Gurgenc T., Özel C.
Friction, vol.8, no.6, pp.1102-1116, 2020 (SCI-Expanded, Scopus)

XXII. **Extreme learning machine and support vector regression wear loss predictions for magnesium alloys coated using various spray coating methods**
Gurgenc T., Altay O., Ulas M., Ozel C.
JOURNAL OF APPLIED PHYSICS, vol.127, no.18, 2020 (SCI-Expanded, Scopus)

XXIII. **Prediction of wear loss quantities of ferro-alloy coating using different machine learning algorithms**
Altay O., Gurgenc T., Ulas M., Özel C.
FRICTION, vol.8, no.1, pp.107-114, 2020 (SCI-Expanded, Scopus)

XXIV. **Prediction of the Fresh Performance of Steel Fiber Reinforced Self-Compacting Concrete Using Quadratic SVM and Weighted KNN Models**
ALTAY O., Ulas M., Alyamac K. E.
IEEE ACCESS, vol.8, pp.92647-92658, 2020 (SCI-Expanded, Scopus)

XXV. **Build a Drug Ontology Using Semantic Web**
ALTAY O., ULAS M.
Fırat Üniversitesi Mühendislik Bilimleri Dergisi, vol.30, no.1, pp.169-174, 2018 (TRDizin)

## Books

I. **Investigating the Performance of Recently Proposed Metaheuristic Optimization Algorithms on Real-World Engineering Design Problems**
Varol Altay E., Polat A. B., Altay O.
in: Optimization and Data Science in Industrial Engineering, A. Mirzazadeh,Zohreh Molamohamadi,Erfan Babaee Tirkolaee,Gerhard-Wilhelm Weber,Kathryn E. Stecke, Editor, Springer, London/Berlin , İstanbul, pp.355-368, 2025

II. **IoT-Based HVAC Optimization Using the RIME Metaheuristic Algorithm**
Varol Altay E., Altay O.
in: Current Concepts and Innovative Research in Computer Sciences and Engineering, ALAYBEYOĞLU AYŞEGÜL, Editor, All Sciences Academy, Konya, pp.72-83, 2025

III. **Akıllı Binalarda HVAC ve Aydınlatma Sistemlerinin Metasezgisel Optimizasyonu**
Varol Altay E., Altay O.
in: Mühendislikte Kuram ve Uygulamalı Çalışmalar, CENGİZ MEHMET SAİT,EL EMİN, Editor, Duvar Yayınevi, Ankara,

pp.42-57, 2025

IV. **Investigating the Performance of Recently Proposed Metaheuristic Optimization Algorithms on Real-World Engineering Design Problems**
Polat A. B., VAROL ALTAY E., ALTAY O.
in: International Conference on Optimization and Data Science in Industrial Engineering, Springer, pp.355-368, 2025

V. **Meta-Sezgisel ve Yapay Zeka Yöntemleriyle IoT'de Optimizasyon: Güncel Yaklaşımlar ve Eğilimler (2024-2025)**
ALTAY O., VAROL ALTAY E.
in: Mühendislikte Yeni Yaklaşımlar: Kuram, Yöntem, Uygulama, KALE GÜLSADE, ÖZDEMİR SITKI ALPER, Editor, Duvar Yayınevi, pp.107-122, 2025

VI. **Assessment of Grey Wolf Optimizer and Its Variants on Benchmark Functions**
Varol Altay E., Altay O.
in: Lecture Notes in Networks and Systems, Fausto Pedro García Márquez,Akhtar Jamil,Süleyman Eken,Alaa Ali Hameed, Editor, Springer, London/Berlin , Frankfurt, pp.55-66, 2023

VII. **The Use of Kernel-Based Extreme Learning Machine and Well-Known Classification Algorithms for Fall Detection**
Altay O., Ulaş M.
in: Advances in Computer Communication and Computational Sciences, Sanjiv K. BhatiaShailesh TiwariKrishn K. MishraMunesh C. Trivedi, Editor, Springer, Singapore, pp.147-155, 2019

## Papers Presented at Peer-Reviewed Scientific Conferences

I. **IoT-Enabled Adaptive Traffic Signal Optimization Using Runge Kutta Optimization Algorithm**
Varol Altay E., Altay O.
6th International Conference on Scientific and Innovative Studies, 9 - 10 December 2025, (Full Text)

II. **Dhole Optimization Algorithm-Based Multilayer Perceptron Trainer**
Altay O., Varol Altay E.
6th International Conference on Scientific and Innovative Studies, 9 - 10 December 2025, (Full Text)

III. **Sensor Technologies in Smart Agriculture**
Panpallı A., ALTAY O., VAROL ALTAY E.
3rd International Conference on Recent and Innovative Results in Engineering and Technology, 15 November 2025, (Full Text)

IV. **Kablosuz Sensör Ağlarında Enerji Tüketiminin Artificial Protozoa Optimizer ile Optimizasyonu**
VAROL ALTAY E., ALTAY O.
4th International Conference on Modern and Advanced Research, 6 November - 07 September 2025, (Full Text)

V. **IoT-Based Vehicle Routing Optimization Using Artificial Protozoa Optimizer**
VAROL ALTAY E., ALTAY O.
4th International Conference on Modern and Advanced Research, 6 - 07 November 2025, (Full Text)

VI. **Performance Comparison of KNN and NB Algorithms in Predicting Urinary Tract Infection in Pediatric Patients**
Gundogdu H., Gundogdu T., Altay O.
5th International Conference on Emerging Systems and Intelligent Computing, ESIC 2025, Bhubaneswar, India, 8 - 09 February 2025, pp.653-657, (Full Text)

VII. **Hyperparameter Tuning of RBF-SVR Models Using Metaheuristic Algorithms**
Kaya G., Altay O.
2025 Innovations in Intelligent Systems and Applications Conference, ASYU 2025, Bursa, Turkey, 10 - 12 September 2025, (Full Text)

VIII. **Comparison of Current Metaheuristic Optimization Algorithms with Classic Benchmark Functions and CEC 2020 Test Functions**

Polat A. B., Altay O.
3rd International Congress of Electrical and Computer Engineering, ICECENG 2024, Bandirma, Turkey, 27 - 30 November 2024, pp.429-444, (Full Text)

IX. **A Comparative Study of Technology for Data Transfer Operations inWeb Application Development**
Sezal H. T., Altay O.
5th International Conference on Scientific and Academic Research, Konya, Turkey, 23 December 2024, (Full Text)

X. **Investigating the Performance of Recently Proposed Metaheuristic Optimization Algorithms on Real-World Engineering Design Problems**
Polat A. B., Varol Altay E., Altay O.
International Conference on Optimization and Data Science in Industrial Engineering (ODSIE 2024), Manisa, Turkey, 7 - 08 November 2024, (Full Text)

XI. **Investigation of Hyperparameter Tuning Performance on Different Deep Learning Models with Meta Heuristic Algorithms**
ÇETİNER S., ALTAY O.
3rd International Conference on Frontiers in Academic Research, 15 June 2024, (Full Text)

XII. **Stock Market Forecasting Based on Football Data Obtained by DataMining**
Aktay Y. F., Erol A. C., Altay O.
3rd International Conference on Engineering, Natural and Social Sciences ICENSOS 2024, Konya, Turkey, 16 May 2024, (Full Text)

XIII. **Prediction of Chicken Doner Cooking Level with Deep Learning Methods**
Güler B., Habeş H. B., Çakmak M. A., Altay O.
3rd International Conference on Engineering, Natural and Social Sciences ICENSOS 2024, Konya, Turkey, 16 May 2024, (Full Text)

XIV. **Readability Prediction of English Texts by Different Machine Learning Algorithms**
Alpsoy E. O., Altay O.
3rd International Conference on Engineering, Natural and Social Sciences ICENSOS 2024, Konya, Turkey, 16 May 2024, (Full Text)

XV. **Classification of Potato Species using Transfer Learning and Support Vector Machine**
Çetiner S., ALTAY O.
2nd International Conference on Frontiers in Academic Research, 04 December 2023, (Full Text)

XVI. **Evaluation of Performance of Feature Selection of Meta-Heuristic Optimization Methods in Medical Data**
Gündoğdu H., Altay O.
7th International Artificial Intelligence and Data Processing Symposium, Malatya, Turkey, 07 September 2023, (Full Text)

XVII. **Solution of optimal operation of the alkylation unit problem using metaheuristic optimization algorithms**
Altay O.
2nd International Conference on Innovative Academic Studies, Konya, Turkey, 28 - 31 January 2023, pp.561-566, (Full Text)

XVIII. **Assessment of Grey Wolf Optimizer and Its Variants on Benchmark Functions**
Varol Altay E., Altay O.
International Conference on Computing, Intelligence and Data Analytics, ICCIDA 2022, Kocaeli, Turkey, 16 - 17 September 2022, vol.643 LNNS, pp.55-66, (Full Text)

XIX. **Recognition of Different Dog Breeds Using the VGG19 Algorithm**
Panpallı A., Çulha A., Altay O.
1st International Conference on Engineering, Natural and Social Sciences, Konya, Turkey, 20 - 23 December 2022, (Full Text)

XX. **Prediction of Photocurrent Value of Silicon-based Composite Semiconductor Metal Oxide Photodiodes by Regression Tree Method**
Altay O., Gürgenç E.

6th International Symposium on Innovative Approaches in Smart Technologies, Ankara, Turkey, 8 - 10 December 2022, (Summary Text)

XXI. **Predicting Sleep Routines After COVID-19 Using Machine Learning Methods**
Cincioglu B., Ozdemir K., Sit K. C., Altay O.
6th INTERNATIONAL ARTIFICIAL INTELLIGENCE & DATA PROCESSING SYMPOSIUM, Malatya, Turkey, 8 - 09 September 2022, pp.57-63, (Full Text)

XXII. **Performance of different KNN models in prediction english language readability**
Altay O.
2nd International Conference on Computing and Machine Intelligence, ICMI 2022, İstanbul, Turkey, 15 - 16 July 2022, (Full Text)

XXIII. **Comparison of Applications and Analysis of Basic PHP and PHP Frameworks in Development of Web Applications for Distance Education**
Tan Saatçı B., Altay O.
International Conference on Emerging Trends in Engineering, Science and Technologies (ICETEST-2020), Chennai, India, 26 - 27 November 2020, pp.13, (Full Text)

XXIV. **Prediction of SFRSCC's T50 Performance Using Regression Tree Algorithm**
Altay O., Ulaş M., Alyamaç K. E.
1. International Informatics and Software Engineering Conference, Ankara, Turkey, 6 - 07 November 2019, (Full Text)

XXV. **An Expert System to Predict Warfarin Dosage in Turkish Patients Depending on Genetic and Non-Genetic Factors**
Altay O., Ulaş M., Özer M., Genç E.
2019 7th International Symposium on Digital Forensics and Security (ISDFS), Barcelona, Spain, 10 - 12 June 2019, (Full Text)

XXVI. **Location determination by processing signal strength of Wi-Fi routers in the indoor environment with linear discriminant classifier**
Altay O., Ulaş M.
2018 The 6th International Symposium on Digital Forensic and Security (ISDFS), Antalya, Turkey, 22 - 25 March 2018, (Full Text)

XXVII. **Prediction of the autism spectrum disorder diagnosis with linear discriminant analysis classifier and K-nearest neighbor in children**
Altay O., Ulaş M.
2018 The 6th International Symposium on Digital Forensic and Security (ISDFS), Antalya, Turkey, 22 - 25 March 2018, (Full Text)

XXVIII. **The Use of Kernel-based Extreme Learning Machine and Well-known Classification Algorithms for Fall Detection**
Altay O., Ulaş M.
The International Conference on Computer, Communication and Computational Sciences, Phuket, Thailand, 11 - 12 October 2017, (Full Text)

## Funded Projects

BORANDAĞ E., YÜCALAR F., ÖZÇEVİK M., ÇELİKTEN T., AYGÜN İ., VAROL ALTAY E., ASLAN E., ÖZÇİFT A., AYGÜN E. N., ALTAY O., et al., Project Supported by Higher Education Institutions, Dijital Dönüşüm ve Yenilikçi Teknolojiler Çalıştayı, 2023 - 2024

Altay O., TUBITAK Project, 1501 - Industry R & D Projects Support Program, Endüstriyel Ağlarda Dağıtık Mimari ve Automl Tabanlı Yeni Nesil Saldırı Tespit Sistem, 2022 - 2025

Altay O., VAROL ALTAY E., TUBITAK Project, 1501 - Industry R & D Projects Support Program, Finansal Varlık Analizinin Dijitalleşmesi İçin Akıllı Robotik Süreç Platformu, 2022 - 2025

Altay O., Gürgenç T., Project Supported by Higher Education Institutions, BAP Research Project, Yüksek Hızlı Oksi-Yakıt

Püskürtme ve Hidrotermal Yöntemle Kendi Kendine Yağlayıcı Colmonoy/Grafen Oksit Kaplanmış Magnezyum Alaşımının Tribolojik Özelliklerinin Araştırılması ve Aşınma Özelliklerinin Makine Öğrenmesi Yöntemleri İle Tahmini, 2022 - 2024
ALTAY O., ULAŞ M., TUBITAK Project, Fabrikaların Endüstri 4.0 ile Akıllı Fabrikaya Dönüşümü İçin Bir IIOT Cihazı Geliştirilmesi, 2021 - 2021
ALTAY O., BOYACI A., Artırılmış Gerçeklik Tabanlı İnteraktif Eğitim Platformu, 2015 - 2016

## Peer Reviews in Scientific Publications

Fırat Üniversitesi Fen ve Mühendislik Bilimleri Dergisi, National Scientific Refreed Journal, May 2025
PEERJ COMPUTER SCIENCE, Journal Indexed in SCI-E, November 2024
CMES - COMPUTER MODELING IN ENGINEERING AND SCIENCES, Journal Indexed in SCI-E, May 2024

## Metrics

Publication: 60
Citation (WoS): 481
Citation (Scopus): 581
H-Index (WoS): 11
H-Index (Scopus): 12