

Asst. Prof. HAKAN KEKÜL

Personal Information

Office Phone: [+90 346 487 0000](tel:+903464870000) Extension: 1360

Email: hakankekul@cumhuriyet.edu.tr

Web: <https://avesis.cumhuriyet.edu.tr/hakankekul>

International Researcher IDs

ScholarID: AeIYPeYAAAAJ

ORCID: 0000-0001-6269-8713

Publons / Web Of Science ResearcherID: LNQ-1695-2024

ScopusID: 57292094500

Yoksis Researcher ID: 386027

Education

Doctorate, Firat University, Faculty Of Engineering, Bilgisayar Mühendisliği, Turkey 2018 - 2022

Undergraduate, Sivas Cumhuriyet University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, Turkey 2017 - 2018

Postgraduate, Sivas Cumhuriyet University, Sosyal Bilimler Enstitüsü, Sayısal Yöntemler, Turkey 2010 - 2017

Undergraduate, Sakarya University, Faculty Of Technical Education, Bilgisayar Sistemleri Öğretmenliği, Turkey 2002 - 2006

Dissertations

Doctorate, A New Method to Determine Scoring and Category of Software Vulnerabilities, Firat University, Faculty Of Engineering, Department Of Computer Engineering, 2022

Postgraduate, Comparison of Eigenfaces and Artificial Neural Networks in Face Recognition Applications, Sivas Cumhuriyet University, Sosyal Bilimler Enstitüsü, Sayısal Yöntemler, 2017

Research Areas

Software Security, Software Engineering

Academic Positions

Assistant Professor, Sivas Cumhuriyet University, Teknoloji Fakültesi, Yazılım Mühendisliği Bölümü, 2023 - Continues

Courses

Postgraduate

Software Security and Analysis, Postgraduate, 2023 - 2024

Undergraduate

Cyber security, Undergraduate, 2022 - 2023

Data Structures, Undergraduate, 2023 - 2024

Journal articles indexed in SCI, SSCI, and AHCI

- I. **Estimating vulnerability metrics with word embedding and multiclass classification methods**
KEKÜL H., Ergen B., ARSLAN H.
International Journal of Information Security, vol.23, no.1, pp.247-270, 2024 (SCI-Expanded)
- II. **A multiclass hybrid approach to estimating software vulnerability vectors and severity score**
Kekül H., ERGEN B., ARSLAN H.
JOURNAL OF INFORMATION SECURITY AND APPLICATIONS, vol.63, 2021 (SCI-Expanded)

Articles Published in Other Journals

- I. **Developing a new ensemble method for sentiment analysis in mobile assisted language learning: a case study for Duolingo**
KEKÜL H., POLATGİL M.
INTERNATIONAL JOURNAL OF MOBILE LEARNING AND ORGANISATION, vol.19, no.2, pp.156-176, 2025 (ESCI)
- II. **Predicting Bitcoin Price Direction Using Machine Learning Models**
Açı T., Kekül H.
Sivas Cumhuriyet Üniversitesi Mühendislik Fakültesi Dergisi, vol.2, no.2, pp.205-213, 2024 (Peer-Reviewed Journal)
- III. **Multi-Class Classification of ISO/IEC 25010 Software Quality Metrics Using User Feedback**
Sönmez S., Kekül H.
Sivas Cumhuriyet Üniversitesi Mühendislik Fakültesi Dergisi, vol.2, no.2, pp.214-222, 2024 (Peer-Reviewed Journal)
- IV. **A systematic literature review on ransomware detection by evidence-based software engineering method**
Kuzu E., Kekül H., Arslan H.
Sivas Cumhuriyet Üniversitesi Mühendislik Fakültesi Dergisi, vol.2, no.2, pp.64-77, 2024 (Peer-Reviewed Journal)
- V. **Sentiment Analysis for Udemy Reviews with Natural Language Processing and Machine Learning Methods**
Sönmez S., Açı T., Takcı H., Kekül H.
ANKARA SCIENCE UNIVERSITY, RESEARCHER, vol.4, no.2, pp.184-191, 2024 (Peer-Reviewed Journal)
- VI. **A Systematic Literature Review on Custom NER with Evidence-Based Software Engineering**
KEKÜL H., ŞEKER A.
Sivas Cumhuriyet Üniversitesi Mühendislik Fakültesi Dergisi, vol.1, no.2, pp.75-81, 2023 (Peer-Reviewed Journal)
- VII. **A Multiclass Approach to Estimating Software Vulnerability Severity Rating with Statistical and Word Embedding Methods**
Kekül H., ERGEN B., ARSLAN H.
International Journal of Computer Network and Information Security, vol.14, no.4, pp.27-42, 2022 (Scopus)
- VIII. **Comparison and Analysis of Software Vulnerability Databases**
Kekül H., ERGEN B., ARSLAN H.
International Journal of Engineering and Manufacturing(IJEM), vol.12, no.4, pp.1-14, 2022 (Peer-Reviewed Journal)
- IX. **Estimating Missing Security Vectors in NVD Database Security Reports**
Kekül H., ERGEN B., ARSLAN H.
International Journal of Engineering and Manufacturing(IJEM), vol.12, no.3, pp.1-13, 2022 (Peer-Reviewed Journal)
- X. **Mikro Denetleyici Sistemler ile Türk İşaret Dili Kelime Çevirici**

GÖKÇE F., KEKÜL H.

Avrupa Bilim ve Teknoloji Dergisi, no.28, pp.972-977, 2021 (Peer-Reviewed Journal)

XI. Yazılım Güvenlik Açığı Veri Tabanları

Kekül H., Ergen B., Arslan H.

Avrupa Bilim ve Teknoloji Dergisi, no.28, pp.1008-1012, 2021 (Peer-Reviewed Journal)

XII. A New Vulnerability Reporting Framework for Software Vulnerability Databases

Kekül H., Ergen B., Arslan H.

International Journal of Education and Management Engineering(IJEME), vol.11, no.3, pp.11-19, 2021 (Peer-Reviewed Journal)

XIII. Yüz Tanıma Uygulamalarında Özyüzler Ve Yapay Sinir Ağlarının Karşılaştırılması

KEKÜL H., BİRCAN H., ARSLAN H.

Uluslararası Yönetim Bilişim Sistemleri ve Bilgisayar Bilimleri Dergisi, vol.2, no.1, pp.51-59, 2018 (Peer-Reviewed Journal)

Books

I. Artificial Intelligence-Supported Software Quality Assessment: the Relationship Between Code Metrics and Quality with Artificial Intelligence

KEKÜL H.

in: Artificial Intelligence: Foundations, Applications and Future Directions, YÜKSEK AHMET GÜRKAN, AKKOYUN SERKAN, Editor, Livre de Lyon, Lyon, pp.323-338, 2025

Papers Presented at Peer-Reviewed Scientific Conferences

I. ISO/IEC 25010 Classification of Software Quality Metrics Using User Feedback

Sönmez S., Kekül H.

International Cumhuriyet Artificial Intelligence Applications Conference 2024, Sivas, Turkey, 21 - 22 November 2024, pp.25, (Summary Text)

II. Predicting The Direction of Bitcoin Price Fluctuation Using Machine Learning Models

Açı T., Kekül H.

International Cumhuriyet Artificial Intelligence Applications Conference 2024, Sivas, Turkey, 21 - 22 November 2024, pp.24, (Summary Text)

III. A Systematic Literature Review On Ransomware Detection By Evidence-Based Software Engineering Method

Kuzu E., Kekül H., Arslan H.

INTERNATIONAL SCIENTIFIC COMPILATION RESEARCH CONGRESS-II, Ankara, Turkey, 27 - 28 September 2024, pp.449-450, (Summary Text)

IV. Doğal Dil İşleme Ve Makine Öğrenmesi Yöntemleri İle UdeMY Yorumları İçin Duygu Analizi

Sönmez S., Açı T., Takıcı H., Kekül H.

7th International Conference on Engineering Sciences (ICES 2024), Ankara, Turkey, 9 - 10 February 2024, pp.19-20, (Summary Text)

V. Using Large Language Model to Label Data in Determining Software Quality Classes: ChatGPT

KEKÜL H., POLATGİL M.

2024 Innovations in Intelligent Systems and Applications Conference, ASYU 2024, Ankara, Turkey, 16 - 18 October 2024, (Full Text)

VI. The Effect of Document Length on Machine Learning Success in Text-Based Data

POLATGİL M., KEKÜL H.

2023 Innovations in Intelligent Systems and Applications Conference, Sivas, Turkey, 11 - 13 October 2023, pp.1-6, (Full Text)

VII. Multi Purpose Security Analysis of Software Projects Against Cyber Threats and Development of Security Scoring Algorithms

ŞEKER A., ARSLAN H., DELİBAŞ E., Kekül H.

2nd International Conference on Cyber Security and Digital Forensics (ICONSEC) 2022, Muğla, Turkey, 07 September 2022, (Summary Text)

VIII. Systems Software Vulnerability Databases

KEKÜL H., ERGEN B., ARSLAN H.

1st International Conference on Applied Engineering and Natural Sciences, Konya, Turkey, 1 - 03 November 2021, pp.971-972, (Summary Text)

IX. Turkish Sign Language Word Converter with Micro Controller Systems

Gökçe F., Kekül H.

1st International Conference on Applied Engineering and Natural Sciences, Konya, Turkey, 1 - 03 November 2021, pp.919-920, (Summary Text)

Funded Projects

Kekül H., Ergen B., TUBITAK Project, Yazılım Güvenlik Açıklarının Skorlanması Ve Kategorisinin Belirlenmesinde Yeni Bir Yöntem, 2021 - 2022

Kekül H., EU Supported Other Project, Let's Stimulate the Informatics, 2011 - 2011