

Asst. Prof. MEHMET GÖKHAN BAKAL

Personal Information

Email: gokhan.bakal@agu.edu.tr

Web: <https://avesis.agu.edu.tr/gokhan.bakal>

International Researcher IDs

ScholarID: RmUCPNwAAAAJ

ORCID: 0000-0003-2897-3894

Publons / Web Of Science ResearcherID: AAT-2797-2020

ScopusID: 57074041500

Yoksis Researcher ID: 323710

Education

Doctorate, University of Kentucky, College of Engineering, Computer Science, United States Of America 2014 - 2019

Postgraduate, University of Kentucky, College of Engineering, Computer Science, United States Of America 2012 - 2014

Undergraduate, Trakya University, Faculty Of Engineering And Architecture, Department Of Computer Engineering, Turkey 2005 - 2009

Research Areas

Biostatistics and Medical Informatics, bioinformatics, Knowledge Engineering, Computer Learning, Natural Language Processing, Text/Document Processing, Neural Networks

Academic Positions

Assistant Professor, Abdullah Gul University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2022 - Continues

Lecturer PhD, Abdullah Gul University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2020 - 2022

Academic and Administrative Experience

Deputy Head of Department, Abdullah Gul University, Faculty of Engineering, Computer Engineering, 2023 - Continues

Courses

Doctorate

Text Mining, Doctorate, 2020 - 2021

Undergraduate

Database Management Systems, Undergraduate, 2023 - 2024

Software Engineering, Undergraduate, 2023 - 2024

Art of Computing, Undergraduate, 2020 - 2021

Supervised Theses

Güngör B., Bakal M. G., Developing a System on the Exploration of Relationships Between Biomedical Assets Through Biomedical Articles, Postgraduate, O.Altuner(Student), 2025

Journal articles indexed in SCI, SSCI, and AHCI

- I. **Combining N-grams and graph convolution for text classification**
Şen T. Ü., Yakıt M. C., Gümüş M. S., Abar O., Bakal M. G.
Applied Soft Computing, vol.175, pp.113092, 2025 (SCI-Expanded)
- II. **Enhancing Sentiment Analysis in Stock Market Tweets Through BERT-Based Knowledge Transfer**
Cicekyurt E., Bakal M. G.
Computational Economics, vol.65, pp.1-23, 2025 (SCI-Expanded)
- III. **Beyond visual cues: Emotion recognition in images with text-aware fusion**
Sungur K. S., Bakal G.
Displays, vol.87, no.102958, pp.1-8, 2025 (SCI-Expanded)
- IV. **Building a challenging medical dataset for comparative evaluation of classifier capabilities**
Bozkurt B., Coskun K., Bakal G.
Computers in Biology and Medicine, vol.178, pp.1-8, 2024 (SCI-Expanded)
- V. **Exploiting semantic patterns over biomedical knowledge graphs for predicting treatment and causative relations**
Bakal G., Talari P., Kakani E., Kavuluru R.
JOURNAL OF BIOMEDICAL INFORMATICS, vol.82, pp.189-199, 2018 (SCI-Expanded)

Articles Published in Other Journals

- I. **Enhancing Deep Learning Performance Through a Genetic Algorithm-Enhanced Approach: Focusing on Lstm**
Şen T. Ü., Bakal M. G.
Kahramanmaraş Sutcu Imam University Journal of Engineering Sciences, vol.27, pp.1350-1360, 2024 (Peer-Reviewed Journal)
- II. **An empirical study of sentiment analysis utilizing machine learning and deep learning algorithms**
Erkantarci B., Bakal M. G.
Journal of Computational Social Science, vol.6, pp.1-17, 2024 (ESCI)
- III. **Document Classification with Contextually Enriched Word Embeddings**
Mahmood R. S., Bakal M. G., Akbaş A.
Balkan Journal of Electrical and Computer Engineering, vol.12, no.1, pp.90-97, 2024 (Peer-Reviewed Journal)
- IV. **Machine Learning based Network Intrusion Detection with Hybrid Frequent Item Set Mining**
Firat M., Bakal M. G., Akbaş A.
Journal of Polytechnic, vol.1, no.1, pp.1, 2024 (ESCI)
- V. **Non-Negative Matrix Factorization for Drug Repositioning: Experiments with the repoDB Dataset.**
Bakal G., Kilicoglu H., Kavuluru R.
AMIA ... Annual Symposium proceedings. AMIA Symposium, vol.2019, pp.238-247, 2020 (Peer-Reviewed Journal)
- VI. **Predicting Treatment Relations with Semantic Patterns over Biomedical Knowledge Graphs.**
Bakal G., Kavuluru R.
Mining intelligence and knowledge exploration : third International Conference, MIKE 2015, Hyderabad, India, December 9-11, 2015. Proceedings. MIKE (Conference) (3rd : 2015 : Hyderabad, India), vol.9468, pp.586-596, 2015 (Peer-Reviewed Journal)

Books

- I. **A Sentiment Analysis Example Using Bert Model**
Öztürk I., Bakal M. G.
in: Classification Models in Data Mining and Applied Examples in R language, Ömer Faruk Rençber, Editor, Nobel Yayın Dağıtım, Ankara, pp.187-217, 2022
- II. **Classification Approach with Hybrid Modelling**
Bakal M. G., Öztürk I.
in: Classification Models in Data Mining and Applied Examples in R language, Ömer Faruk Rençber, Editor, Nobel Yayın Dağıtım, Ankara, pp.219-236, 2022
- III. **On Clustering Covid-19 Tweets with Text Mining Perspective**
Bakal M. G., Abar H., Öztürk İ., Abar O., Abar O. (Editor)
in: Text Mining Applications Using Real-World Data in Python, Orhan Abar, Editor, Nobel Yayınevi, Ankara, pp.1-22, 2021

Papers Presented at Peer-Reviewed Scientific Conferences

- I. **Text Classification Experiments on Contextual Graphs Built by N-Gram Series**
Şen T. Ü., Yakıt M. C., Gümüş M. S., Abar O., Bakal M. G.
4'th International Conference on Intelligent Systems and Pattern Recognition, İstanbul, Turkey, 26 - 28 June 2024, pp.312-326
- II. **Biomedical Embedding Transitions for Enhanced Computational Drug Repositioning**
Erkantarcı B., Bakal M. G.
17th The International Symposium on Health Informatics and Bioinformatics, İstanbul, Turkey, 18 - 20 December 2024, pp.1
- III. **Words Speak Louder Than Actions: Decoding Emotions Through NLP**
Paksoy M., Bakal M. G.
2024 9th International Conference on Computer Science and Engineering (UBMK), Antalya, Turkey, 26 - 28 October 2024, pp.1-5
- IV. **From Traditional to Deep: Evaluating Sentiment Analysis Models on a Large-Scale Tweet Dataset**
Mammadov A., Bakal M. G.
2024 9th International Conference on Computer Science and Engineering (UBMK), Antalya, Turkey, 26 - 28 October 2024, pp.1-5
- V. **Drug Repositioning via Entity Transformation in Biomedical Knowledge Systems**
Erkantarcı B., Bakal M. G.
3rd INTERNATIONAL CONGRESS of ELECTRICAL and COMPUTER ENGINEERING, Balıkesir, Turkey, 27 - 30 November 2024, pp.1-15
- VI. **Improving Salary Offer Processes With Classification Based Machine Learning Models**
Kaya R., Saatçi M., Bakal G.
2024 8th International Artificial Intelligence and Data Processing Symposium (IDAP), Malatya, Turkey, 21 - 22 September 2024, pp.1-7
- VII. **Graph-based Biomedical Knowledge Discovery Çizge tabanlı Biyomedikal Bilgi Keşfi**
Altuner O., Bakır-Gungor B., Bakal G.
32nd IEEE Conference on Signal Processing and Communications Applications, SIU 2024, Mersin, Turkey, 15 - 18 May 2024
- VIII. **A Transfer Learning Application on the Reliability of Psychological Drugs' Comments**
Şen T. Ü., Bakal G.
2023 International Conference on Smart Applications, Communications and Networking (SmartNets), İstanbul, Turkey, 25 - 27 July 2023, pp.1-6
- IX. **A Computational Drug Repositioning Effort using Patients' Reviews Dataset**

Akkaya A., Bakal G.

2023 International Conference on Smart Applications, Communications and Networking (SmartNets), İstanbul, Turkey, 25 - 27 July 2023, pp.1-6

X. On Comparative Classification of Relevant Covid-19 Tweets

Bakal M. G., Abar O.

2021 6th International Conference on Computer Science and Engineering (UBMK), Ankara, Turkey, 15 - 17 September 2021, pp.287-291, (Full Text)

XI. A Comparative Analysis on Medical Article Classification Using Text Mining & Machine Learning Algorithms

Kolukisa B., Dedetürk B. K., Adanur Dedetürk B., Gülşen A., Bakal M. G.

2021 6th International Conference on Computer Science and Engineering (UBMK), Ankara, Turkey, 15 - 17 September 2021, pp.360-365, (Full Text)

XII. Non-Negative Matrix Factorization for Drug Repositioning: Experiments with the repoDB Dataset.

BAKAL M. G., kılıçoğlu h., kavuluru r.

AMIA ... Annual Symposium proceedings. AMIA Symposium, Washington, Kiribati, 16 - 20 November 2019, vol.2019, pp.238-247

XIII. On the Predictive Potential of Graph Patterns for Biomedical Relation Extraction

BAKAL M. G., Wallace s., kavuluru r.

AMIA 2016 ANNUAL SYMPOSIUM, Chicago, IL, United States Of America, 12 - 16 November 2016

XIV. On Quantifying Diffusion of Health Information on Twitter

Bakal G., Kavuluru R.

4th IEEE EMBS International Conference on Biomedical and Health Informatics (BHI), Florida, United States Of America, 16 - 19 February 2017, pp.485-488

Funded Projects

Bakal M. G., Abar O., TUBITAK Project, Text Classification Using Complete Subgraphs Generated over N-grams, 2022 - 2024

Scientific Consultations

ARGEVA INFORMATION TECHNOLOGIES INDUSTRY AND TRADE LIMITED COMPANY, Project Consultancy, Abdullah Gul University, Turkey, 2024 - 2025

Roles in Event Organizations

Bakal M. G., INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE & MACHINE LEARNING AI and ML Renaissance: Pioneering the Path to Future Intelligence, Scientific Congress, Osaka, Japan, Mayıs 2025

Bakal M. G., 4th Asia Conference on Algorithms, Computing and Machine Learning, Scientific Congress, Guangzhou, China, Mart 2025

Bakal M. G., 5th International Conference on Cloud, Big Data and IoT , Scientific Congress, Toronto, Canada, Eylül 2024

Bakal M. G., The 4'th International Conference on Intelligent Systems and Pattern Recognition, Scientific Congress, İstanbul, Turkey, Haziran 2024

Metrics

Publication: 28

Citation (WoS): 50

Citation (Scopus): 100

H-Index (WoS): 3

H-Index (Scopus): 6

Scholarships

Selection and placement of students to be sent abroad for graduate study, Ministry of Education, 2011 - 2019

Awards

Bakal M. G., AWS Cloud Credit for Research Application, Amazon Web Services, Inc., May 2024

Bakal M. G., Google Cloud Araştırma Kredisi, Google Cloud Platform, January 2023

Non Academic Experience

Business Establishment Private, DDI Technology, Software Development, Software Engineer