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Personal Information

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International Researcher IDs

ScholarID: Rd5rt80AAAAJ

ORCID: 0000-0003-4917-192X

Publons / Web Of Science ResearcherID: H-1174-2013

ScopusID: 14631920500

Yoksis Researcher ID: 167419

Education Information

Doctorate, The Queen''s University of Belfast, Electronics, Electrical Engineering and Computer Science, United Kingdom 2001 - 2004

Postgraduate, University of Bristol, Electrical And Electronic Engineering, United Kingdom 2000 - 2001

Undergraduate, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 1995 - 2000

Dissertations

Doctorate, Analysis of Coincident Microphone Array Recordings For Auralization Applications, The Queen''s University of Belfast, 2004

Postgraduate, Implementation of OFDM for HIPERLAN/2 and performance comparison of sub-carrier modulation formats, University of Bristol, 2001

Research Areas

Signal Processing, Signal Processing for Sensor Sequences, Multi-mode Signal Processing, Multimedia, Speech Analysis and Processing Techniques, Simulation and Modelling, Parallel Algorithms, Information Security and Reliability, Artificial Intelligence, Computer Learning and Pattern Recognition, Software Engineering

Academic Titles / Tasks

Professor, Middle East Technical University, Graduate School of Informatics, Information Systems, 2022 - Continues

Associate Professor, Middle East Technical University, Graduate School of Informatics, Information Systems, 2014 - 2022

Assistant Professor, Middle East Technical University, Graduate School of Informatics, Information Systems, 2010 - 2014

Researcher, University of Surrey, Engineering And Physical Science, Electrical And Electronic Engineering, 2004 - 2010

Academic and Administrative Experience

Director of The Institution, Middle East Technical University, Graduate School of Informatics, Information Systems, 2022 - Continues
Assistant Director of the Institute, Middle East Technical University, Graduate School of Informatics, Information Systems, 2016 - 2022

Advising Theses

Günel Kılıç B., A robust machine learning based ids design against adversarial attacks in sdn, Doctorate, A.SARIKAYA(Student), 2024

Günel Kılıç B., Using topological features of microservice call graphs to predict the response time variation, Postgraduate, B.FINDIK(Student), 2024

Günel Kılıç B., Examination of institutional investor network patterns in context of major crashes in us stock markets, Postgraduate, E.DEMİREL(Student), 2024

Günel Kılıç B., Wavelet-based adaptive array signal processing for gunshot detection and DOA estimation on unmanned air vehicles, Doctorate, M.YILMAZ(Student), 2023

Günel Kılıç B., Investigating the impact of selective directional auditory attention on eye movements, pupil responses, and auditory perception in the presence of competingspeech, Doctorate, S.YAĞMUR(Student), 2023

Günel Kılıç B., Assessment for identifying skills gaps in high performance computing related higher education programs by using NLP, Postgraduate, G.KARGIN(Student), 2023

GÜNEL KILIÇ B., Augmenting a Turkish dataset for spam filtering using natural language processing techniques, Postgraduate, A.AKSOY(Student), 2022

GÜNEL KILIÇ B., Keystroke transcription from acoustic emanations using continuous wavelet transform, Postgraduate, A.ÖZKAN(Student), 2022

GÜNEL KILIÇ B., BOZŞAHİN H. C., Human presence detection in emergency situations using deep learning based audio-visual systems, Postgraduate, İ.GENECİ(Student), 2022

GÜNEL KILIÇ B., PERFORMANCE EVALUATION OF REAL-TIME NOISY SPEECH RECOGNITION FOR MOBILE DEVICES, Postgraduate, Y.YURTCAN(Student), 2019

GÜNEL KILIÇ B., It security and privacy guidance tool for iot designs and products, Postgraduate, M.Erhan(Student), 2019

GÜNEL KILIÇ B., Social network analysis of malicious websites for detection and characterization, Postgraduate, M.Aldemir(Student), 2019

GÜNEL KILIÇ B., Security visualization infrastructures, techniques, and methodologies for improved enterprise security, Doctorate, F.Ferd(Student), 2019

GÜNEL KILIÇ B., ANOMALY-BASED CYBER INTRUSION DETECTION SYSTEM WITH ENSEMBLE CLASSIFIER, Postgraduate, A.SARIKAYA(Student), 2018

GÜNEL KILIÇ B., COŞAR A., APPLICATION OF PARTICLE SWARM OPTIMIZATION ALGORITHM IN ALLOCATING CLOUD RESOURCES FOR VIDEO ON DEMAND, Doctorate, B.AYGÜN(Student), 2018

GÜNEL KILIÇ B., Guidelines and principles for efficient interaction on large touchscreens with collaborative usage, Doctorate, T.SERCAN(Student), 2017

YILDIRIM İ. S., GÜNEL KILIÇ B., Investigating networked learning in corporate context: an embedded design mixed method study examining online knowledge sharing and collaboration via social network analysis, Doctorate, D.Tufan(Student), 2016

GÜNEL KILIÇ B., A comprehensive simulation of factors that affect performance of array based acoustic gunshot localization on helicopters, Postgraduate, M.YILMAZ(Student), 2016

GÜNEL KILIÇ B., An information security framework for web services in enterprise networks, Postgraduate, B.GÖKHAN(Student), 2015

GÜNEL KILIÇ B., Influence of networks on systemic risk within banking system of Turkey, Postgraduate, Ö.ÖZDEMİR(Student), 2015

Designed Lessons

Günel Kiliç B., Secure Software Development, Postgraduate, 2016 - 2017
Günel Kiliç B., Security Engineering, Postgraduate, 2013 - 2014
Günel Kiliç B., Social Network Analysis, Postgraduate, 2011 - 2012
Günel Kiliç B., Applications of Audio Information Systems, Postgraduate, 2010 - 2011

Published journal articles indexed by SCI, SSCI, and AHCI

I.   **RAIDS: Robust autoencoder-based intrusion detection system model against adversarial attacks**
     Sarıkaya A., GÜNEL KILIÇ B., DEMİRCİ M.
     Computers and Security, vol.135, 2023 (SCI-Expanded)

II. **GRU-GBM: A combined intrusion detection model using LightGBM and gated recurrent unit**
     Sarikaya A., GÜNEL KILIÇ B., DEMİRCİ M.
     EXPERT SYSTEMS, vol.39, no.9, 2022 (SCI-Expanded)

III. **A Decision Support System for Optimal Selection of Enterprise Information Security Preventative Actions**
     Sonmez F. O., Günel Kiliç B.
     IEEE TRANSACTIONS ON NETWORK AND SERVICE MANAGEMENT, vol.18, no.3, pp.3260-3279, 2021 (SCI-Expanded)

IV. **Application of binary PSO for public cloud resources allocation system of video on demand (VoD) services**
     Aygun B., GÜNEL KILIÇ B., ARICI N., COŞAR A., Tuncsiper B.
     Applied Soft Computing, vol.99, 2021 (SCI-Expanded)

V.   **Reusable Security Requirements Repository Implementation Based on Application/System Components**
     Sonmez F. O., GÜNEL KILIÇ B.
     IEEE ACCESS, vol.9, pp.165966-165988, 2021 (SCI-Expanded)

VI. **Holistic Web Application Security Visualization for Multi-Project and Multi-Phase Dynamic Application Security Test Results**
     Sonmez F. O., GÜNEL KILIÇ B.
     IEEE ACCESS, vol.9, pp.25858-25884, 2021 (SCI-Expanded)

VII. **Evaluation of hearing loss simulation using a speech intelligibility index**
     ARIÖZ U., GÜNEL KILIÇ B.
     TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.24, no.5, pp.4193-4207, 2016 (SCI-Expanded)

VIII. **Optimization of Frequency Lowering Algorithms for Getting the Highest Speech Intelligibility Improvement by Hearing Loss Simulation**
     ARIÖZ U., GÜNEL KILIÇ B.
     JOURNAL OF MEDICAL SYSTEMS, vol.39, no.6, 2015 (SCI-Expanded)

IX. **On the statistical distributions of active intensity directions**
     GÜNEL B.
     JOURNAL OF SOUND AND VIBRATION, vol.332, no.20, pp.5207-5216, 2013 (SCI-Expanded)

X.   **Multichannel Audio Coding Based on Analysis by Synthesis**
     Elfitri I., GÜNEL B., AHMET K.
     PROCEEDINGS OF THE IEEE, vol.99, no.4, pp.657-670, 2011 (SCI-Expanded)

XI. **Simulation of Directional Microphones in Digital Waveguide Mesh-Based Models of Room Acoustics**
     HACIHABİBOĞLU H., GÜNEL B., CVETKOVIC Z.
     IEEE TRANSACTIONS ON AUDIO SPEECH AND LANGUAGE PROCESSING, vol.18, no.2, pp.213-223, 2010 (SCI-Expanded)

XII. **Time-domain simulation of directive sources in 3-D digital waveguide mesh-based acoustical models**
HACIHABİBOĞLU H., Gunel B., kondoz a.
IEEE TRANSACTIONS ON AUDIO SPEECH AND LANGUAGE PROCESSING, vol.16, no.5, pp.934-946, 2008 (SCI-Expanded)

XIII. **Acoustic source separation of convolutive mixtures based on intensity vector statistics**
GÜNEL B., HACIHABİBOĞLU H., Kondoz A.
IEEE TRANSACTIONS ON AUDIO SPEECH AND LANGUAGE PROCESSING, vol.16, no.4, pp.748-756, 2008 (SCI-Expanded)

XIV. **On the accuracy of first-order numerical derivatives in multidimensional digital waveguide mesh topologies**
HACIHABİBOĞLU H., Gunel B., kondoz a.
IEEE SIGNAL PROCESSING LETTERS, vol.15, pp.9-12, 2008 (SCI-Expanded)

XV. **Analysis of root displacement interpolation method for tunable allpass fractional-delay filters**
HACIHABİBOĞLU H., Guenel B., kondoz a.
IEEE TRANSACTIONS ON SIGNAL PROCESSING, vol.55, no.10, pp.4896-4906, 2007 (SCI-Expanded)

XVI. **Wavelet packet based analysis of sound fields in rooms using coincident microphone arrays**
Gunel B., HACIHABİBOĞLU H., kondoz a.
APPLIED ACOUSTICS, vol.68, no.7, pp.778-796, 2007 (SCI-Expanded)

Articles Published in Other Journals

I. **A Class-Specific Intrusion Detection Model: Hierarchical Multi-class IDS Model**
Sarıkaya A., Günel Kiliç B.
SN Computer Science, vol.1, no.202, pp.1-11, 2020 (Peer-Reviewed Journal)

II. **Usability Comparison of Large Touchscreen Systems versus Desktop-Size and Mobile-Size Screen Systems**
Pekin T. S., Işler V., Günel Kiliç B.
Journal of Naval Sciences and Engineering, vol.11, no.3, pp.14-26, 2016 (Peer-Reviewed Journal)

III. **Modified Rhyme Test for Evaluating Turkish Speech Intelligibility**
ARIÖZ U., GÜNEL KILIÇ B.
GAZI MEDICAL JOURNAL, vol.26, no.3, pp.75-81, 2015 (ESCI)

IV. **Blind source separation and directional audio synthesis for binaural auralization of multiple sound sources using microphone array recordings**
GÜNEL B., HACIHABİBOĞLU H., Kondoz A.
Proceedings of Meetings on Acoustics, vol.4, 2008 (Non Peer-Reviewed Journal)

V. **Comparison of Subjective and Objective Evaluation Methods for Audio Source Separation**
Josef K., GÜNEL B., Ahmet K.
Proceedings of Meetings on Acoustics, vol.4, 2008 (Non Peer-Reviewed Journal)

Books & Book Chapters

I. **Evaluation of Acoustic Gunshot Localization Methods on Helicopters with Environmental Sound Simulations**
Yılmaz M., Günel Kiliç B.
in: Cybernetics Perspectives in Systems, Radek Silhavy, Editor, Springer, London/Berlin , London, pp.366-385, 2022

II. **The Use of Big Mobile Data to Gain Multilayered Insights for Syrian Refugee Crisis**
Kılıç Ö. O., Akyol M. A., Işık O., Günel Kılıç B., Aydınoğlu A. U., Sürer E., Düzgün H. Ş., Kalaycıoğlu H. S., Taşkaya Temizel T.

in: Guide to Mobile Data Analytics in Refugee Scenarios , Salah A.,Pentland A.,Lepri B.,Letouzé E., Editor, Springer, London/Berlin , Zürich, pp.347-379, 2019

III. **Big Data Technologies–Supported Generic Visualization System in an Enterprise Cyber-Physical Environment**
Özdemir Sönmez F. F., Günel Kılıç B.
in: Cybersecurity and Privacy in Cyber Physical Systems, Y. Maleh,M. Shojafar,A. Haqiq,A. Darwish, Editor, CRC, New York , New-York, pp.251-292, 2019

IV. **Security Visualization Extended Review Issues, Classifications, Validation Methods, Trends, Extensions**
Özdemir Sönmez F. F., Günel Kılıç B.
in: Security and Privacy Management, Techniques, and Protocols, Maleh,Yassine, Editor, Idea Group Publishing (IGP) , New-York, pp.152-197, 2018

V. **Sound source localization: Conventional methods and intensity vector direction exploitation**
Günel Kılıç B., Hacıhabiboğlu H.
in: Machine Audition Principles Algorithms and Systems, Wenwu Weng, Editor, Idea Group Publishing (IGP) , New-York, pp.126-161, 2011

Refereed Congress / Symposium Publications in Proceedings

I. **Qualitative and Quantitative Results of Enterprise Security Visualization Requirements Analysis Through Surveying**
Özdemir Sönmez F. F., GÜNEL KILIÇ B.
10th International Conference on Information Visualization Theory and Applications (IVAPP), Prague, Czech Republic, 25 - 27 February 2019

II. **Data Analytics without Borders: Multi-Layered Insights for Syrian Refugee Crisis**
KILIÇ Ö. O., AKYOL M. A., ışık o., GÜNEL KILIÇ B., AYDINOĞLU A. U., SÜRER E., Düzgün Ş., kalaycıoğlu s., TAŞKAYA TEMİZEL T.
Data for Refugees Challenge Workshop, İstanbul, Turkey, 21 January 2019, pp.19-46

III. **Evaluation of Security Information and Event Management Systems for Custom Security Visualization Generation**
Sonmez F. O., GÜNEL KILIÇ B.
International Congress on Big Data, Deep Learning and Fighting Cyber Terrorism (IBIGDELFT), Ankara, Turkey, 3 - 04 December 2018, pp.38-44

IV. **Speech recognition on mobile devices in noisy environments**
Yurtcan Y., Günel Kiliç B.
26th Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018

V. **Investigation of Acoustic Source Localization algorithm performances for Gunshot Localization on helicopters**
Yılmaz M., GÜNEL B.
2016 24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016

VI. **MAXIMUM-LIKELIHOOD BASED 3D ACOUSTICAL SIGNATURE ESTIMATION**
GÜNEL KILIÇ B.
22nd IEEE Signal Processing and Communications Applications Conference (SIU), Trabzon, Turkey, 23 - 25 April 2014, pp.786-789

VII. **A social network analysis of learning in corporate training context: Analyzing Sosyal 2.0 as a space for networked learning**
Tufan D., Yildirim I. S., Günel Kiliç B.
9th International Conference on Networked Learning, Edinburgh, United Kingdom, 7 - 09 April 2014, pp.1-5

VIII. **Linking Software Development Phase and Product Attributes With User Evaluation: A Case Study on**

Games

Bengür Ö., Günel Kiliç B.

International Conference on Advanced Information Technologies and Applications, Dubai, United Arab Emirates, 1 - 03 November 2013, pp.397-413

IX. **AVISION Audio and visual attention models applied to 2D and 3D audio-visual content**

Just N., Laabs M., Unver E., Gunel B., Worrall S., Kondoz A.

2011 IEEE International Symposium on Broadband Multimedia Systems and Broadcasting, BMSB 2011, Nuremberg, Germany, 8 - 10 June 2011

X. **Spatial synchronization of audiovisual objects by 3D audio object coding**

Günel B., Ekmekcioglu E., Kondoz A. M.

2010 IEEE International Workshop on Multimedia Signal Processing, MMSP2010, Saint-Lo, France, 4 - 06 October 2010, pp.460-465

XI. **A scalable multi view audiovisual entertainment framework with content aware distribution**

Ekmekçioğlu E., GÜNEL B., Dissanayake M., Worral S., Kondoz A.

International Conference on Image Processing, 26 - 29 September 2010

XII. **Performance of Closed Form Acoustic Scene Decomposition for Forensic Analysis**

Günel Kiliç B., Nikopoulos G., Hacihabiboğlu H., Kondoz A.

AES 39th International Conference: Audio Forensics: Practices and Challenges, Hillerod, Denmark, 17 - 19 June 2010

XIII. **Intensity vector direction exploitation for exhaustive blind source separation of convolutive mixtures**

GÜNEL KILIÇ B., HACIHABİBOĞLU H., kondoz a.

2009 IEEE International Conference on Acoustics, Speech and Signal Processing, Taipei, Taiwan, 19 - 24 April 2009

XIV. **Robustness Comparison of Moving Convolutive Source Separation Techniques**

Kornycky J., Guenel B., Kondoz A.

51st International Symposium ELMAR, Zadar, Croatia, 28 - 30 September 2009, pp.209-212

XV. **Comparison of subjective and objective evaluation methods for audio source separation**

Kornycky J., Gunel B., Kondoz A.

7th European Conference on Noise Control 2008, EURONOISE 2008, Paris, France, 29 June - 04 July 2008, pp.3937-3942

XVI. **Blind source separation and directional audio synthesis for binaural auralization of multiple sound sources using microphone array recordings**

GÜNEL KILIÇ B., HACIHABİBOĞLU H., kondoz a.

ASA-EAA 2nd Joint Conference, 29 June - 04 July 2008

XVII. **Source directivity simulation in digital waveguide mesh based room acoustics models**

Hacihabiboğlu H., Günel Kiliç B., Kondoz A.

AES 30th International Conference on Intelligent Audio Environments, Rovaniemi, Finland, 15 - 17 March 2007

XVIII. **Plane wave decomposition with regularization using a single rotating microphone**

Günel Kiliç B., Hacihabiboğlu H., Kondoz A.

AES 30th International Conference on Intelligent Audio Environments, Rovaniemi, Finland, 15 - 17 March 2007

XIX. **Interpolated Allpass Fractional Delay Filters Using Root Displacement**

HACIHABİBOĞLU H., GÜNEL KILIÇ B., kondoz a.

2006 IEEE International Conference on Acoustics Speed and Signal Processing Proceedings, Toulouse, France, 14 - 19 May 2006

XX. **Sound field analysis using a compact pressure gradient array**

GÜNEL KILIÇ B., HACIHABİBOĞLU H., kondoz a.

IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, 2005., New Paltz, NY, USA, 16 - 19 October 2005

XXI. **Head related transfer function filter interpolation by root displacement**

HACIHABİBOĞLU H., GÜNEL KILIÇ B., kondoz a.

IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, 2005., New Paltz, NY, USA, 16 - 19

October 2005

XXII. **Loudspeaker localization using B-format recordings**
Gunel B.
IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, New-York, United States Of America, 19 - 23 October 2003, pp.59-62

XXIII. **Room shape and size estimation using directional impulse response measurements**
GÜNEL KILIÇ B.
Forum Acousticum, Sevilla, Spain, 16 - 20 September 2002

XXIV. **Wavelet based spectral smoothing for head-related transfer function filter design**
Hacihabiboglu H., Gunel B., Murtagh F.
22nd International Congress of the Audio-Engineering-Society, Espoo, Finland, 15 - 17 June 2002, pp.131-136

Supported Projects

Toffoli H., Günel Kiliç B., Akagündüz E., Akbaş E., Dülger Ö., Karaca M., Karagöz P., Manguoğlu M., Nazirzadeh S., Sezer Uzol N., et al., EU Supported Other Project, EuroCC2 - National Competence Centers in the Framework of EuroHPC Phase2, 2023 - 2026

Günel Kiliç B., Eren P. E., H2020 Project, EUMaster4HPC - HPC European Consortium Leading Education Activities, 2022 - 2025

Günel Kiliç B., FP7 Project, IRIS-Towards Natural Interaction and Communication, 2014 - 2017

Günel Kiliç B., FP7 Project, DIstribution Of Multi-view Entertainment using content aware DElivery Systems (DIOMEDES)), 2010 - 2012

Günel Kiliç B., National Research Fund Supported Project, Improving speech intelligibility using acoustic source separation with audio frequency, 2010 - 2010

Günel Kiliç B., FP7 Project, Multimedia Scalable 3D for Europe (MUSCADE), 2010 - 2010

Günel Kiliç B., FP6 Project, Networked Audiovisual Media Technologies (VISNET II), 2006 - 2009

Patent

GÜNEL KILIÇ B., ACOUSTIC SOURCE SEPARATION, Patent, CHAPTER H Electricity, Standard Registration, 2016

HACIHABİBOĞLU H., GÜNEL KILIÇ B., Acoustic source separation, Patent, CHAPTER G Physics, Standard Registration, 2015

Metrics

Publication: 52
Citation (WoS): 168
Citation (Scopus): 263
H-Index (WoS): 7
H-Index (Scopus): 9

Non Academic Experience

University of Surrey