CURRICULUM VITAE
Updated on March 15, 2024.

KHALID M. MALIK

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SUMMARY OF QUALIFICATIONS

- **<u>Research Areas and Interests</u>**

My research interests include Trustworthy, Multimodal, Neuro-symbolic, and Decentralized AI in healthcare and cybersecurity.

- In cybersecurity, I am working on developing forensic examiners for authenticity, integrity and veracity of audio and videos and other sensors by using explainable, multimodal, and fairness-enabled AI. I also work on developing secure group communication protocols in cyber physical systems (CPS) and autonomous vehicles. For smart and connected vehicles security evaluation, I am working to develop testbeds using multimodal AI, and digital twins.

- For AI in cybersecurity education, I use machine learning-enabled gamified architecture, digital twins, and explainable AI (XAI) for learning/teaching AI in cybersecurity.

- In healthcare, my focus is on prediction of neurological disorders using clinical text and radiomics by employing multimodal neuro-symbolic AI, explainable and fairness-enabled AI, and federated learning.

- **<u>Academic Research projects, grants, and proposals</u>**

I was instrumental in attracting a total of **<u>$6,552,370</u>** from the National Science Foundation (NSF), Department of Energy (DoE), US Army, Brain Aneurysm Foundation (BAF), and other national and international agencies. Out of **$<u>$6,522,370 </u>** a total of **<u>$3,888,065 as a PI</u>** and the rest of it **as Co-PI or senior personnel** was obtained. These grants were received from the following agencies: **Ten (10)** awards from **National Science Foundation (NSF)**, **Three (3)** award from **Brain Aneurysm Foundation**, **one (1)** from **Department of Energy**, **one (1)** from **US Army, two (2)** from **Michigan Translational Research and Commercialization (MTRAC)** Innovation Hub, **one (1)** from **Michigan Translational Research and Commercialization (MTRAC) Life sciences** and **one (1)** from **Helping Hands for Relief and Development,** and **four (4)** industrial grants. Out of Ten (10) NSF awards, I am PI in six of them, Co-PI in one, while senior personnel in the other three.

I am the founding director of Cybersecurity at University of Michigan-Flint. Previously I was the Director of Cybersecurity Center sponsored by Department of Energy (DoE) and Co-director of NSF-IUCRC Pervasive Personalized Intelligence Center. Additionally, I am a recipient of Oakland University Research Fellowship (in 2015 and 2018), and Center for Excellence in Teaching and Learning (2018), Oakland University. I also secured an international grant from the Ministry of Education, KSA. <u>In summary, my research funding is supported by all avenues: industry, foundations, state-level funding, federal agencies, and international funding.</u> I am also a founding member of the center of biomedical research at Oakland University.

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- **Research and Professional Activities**:
  o Got 33 research awards from federal, state, and international agencies.
  o Major advisor of 5 postdoc, 12 PhDs, 9 MS researchers, and 11 undergraduate students as major advisor since 2014.
  o Authored 99 peer-reviewed journal and conference papers.
  o Served as guest editor for IEICE transactions on communication in 2015-2017.
  o Has frequently served as a reviewer and panelist for NSF and US Army.
  o Technical program committee (TPC) of conferences such as ISADS 2015 & 2017 and publicity chair of IEEE Int'l Conf. on Smart City Innovations 2021.
  o Senior member IEEE, member American Heart Association, member ACM, member PMI, member IEICE.
  o Research collaborators include Neurosymbolic AI team of IBM, Henry Ford Hospital, UofM, Dearborn, Mayo Clinic, Sejong University Korea, and University of Engineering & Technology, Taxila Pakistan.

EDUCATION

Ph.D. in Computer Science, March 2010
Tokyo Institute of Technology, Japan

EXPERIENCE

09/2023- Current	**Professor, College of Innovation and Technology** **University of Michigan, Flint, MI, US** **Adjunct Professor** Computer Science and Engineering (CSE) Oakland University, Rochester, MI, US
8/2020 – 08/2023	**Associate Professor (Distinguished)** Computer Science & Engineering (CSE), Oakland University, Rochester, MI, US
8/2014 – 8/2020	**Assistant Professor** CSE Department, Oakland University, Rochester, MI, US
08-2013-7/2014	**Visiting Assistant Professor** CSE Department, Oakland University, Rochester, MI, US
3/2011 - 7/2014	**Senior Manager, R &D** DTS Inc. Japan
05/2010-02/2011	**Researcher** Sanyo Electric Japan

AWARDS & HONORS

- 2022 School of Engineering & Computer Science Excellence in Service Award
- 2021 School of Engineering & Computer Science Distinguished Associate Professor Award
- 2021 Nominee, Outstanding Graduate Mentor Award
- 2019 Outstanding Junior Investigator award, Oakland University (OU)
- 2019 School of Engineering & Computer Science Outstanding Research Award, OU
- 2019 New Investigator Research Excellence Award, OU
- 2018 Honors paper, Computers in Biology and Medicine Journal (Elsevier)
- 2017 Oakland University Faculty Research Fellowship

- 2017 Nominee, Outstanding Graduate Mentor Award
- 2016 Nominee, Outstanding Graduate Mentor Award
- 2015 NSF Day Travel Award, Texas Tech, May 20, 2015
- 2015 Oakland University Faculty Research Fellowship
- 2013 PMP Certified
- 2006 Ministry of Science and Technology, Japan, fully funded PhD scholarship

RESEARCH PROPOSAL & FUNDING EXPERIENCE

Awarded

1. **Khalid Malik (Sole PI)**, "Development of an Explainable and Robust Detector of Forged Multimedia and Cyber Threats using Artificial intelligence" National Science Foundation, **$549, 156.**
2. **Khalid Malik (Sole PI)** "Hemorrhagepredictor: A Multimodal, Neuro-symbolic, and Federated AI-based Tool for Subarachnoid Hemorrhage Prediction" Michigan Translational Research and Commercialization (MTRAC) Life Sciences; **$221,009** (04/2024-3/2025).
3. **Khalid Malik (Sole PI)** "Multilingual Text Based Multimodal Neuro- symbolic LLM Model for web filtering" Netstar Inc, **$324,000**.
4. **Khalid Malik (Sole PI),** "Hemorrhagepredictor: A Multimodal, Neuro-symbolic, and Federated AI-based Tool for Improved Aneurysm Detection and Rupture Prediction", Brain Aneurysm Foundation**, $40,000;** (09/2023-08/2024).
5. Marouane Kessentini, Doughlas Zytko, **Khalid Malik** (senior personnel), "REU Site: Research Experience for Undergraduates in Digital Accessibility" $429,397.00
6. **Khalid Malik (Sole PI)**, "Deep Forgery Detector", Michigan Translational Research and Commercialization (MTRAC) Innovation Hub; **$75,000** (01/2023-12/2023).
7. **Khalid Malik,** Marouane Kessentini, Ali Ahmed Malik**,** "Oakland University Cybersecurity Center", Department of Energy, **$2.0 Million [OU Share 1.0 million]** (03/2023-02/2025).
8. Marouane Kessentini (PI), **Khalid Malik (co-PI),** NSF-IUCRC Phase I Oakland University: Center for Pervasive Personalized Intelligence (PPI), **$375,115** (02/2023-01/2025).
9. **Khalid Malik (Sole PI)**, "Multimodal Knowledge-infused Federated Learning", *Pervasive Personalized Intelligence Center,* **$150,000;** (01/2023-12/2024).
10. **Khalid Malik (Sole PI)**, "Deep Forgery Detection Technology", *National Science Foundation,* **$50,000;** (08/2022-07/2024).
11. Marouane Kessentini, **Khalid Malik (co-PI),** Douglas Zytko, Geoffrey Louie, Hy Kim **"**Multi-Objective Rapid Generation of Virtual Environments and Data Analysis in Multi-User Immersive Gaming Environments for Testing New Crew Interface Concepts", **$850,000**, Ground Vehicle Systems Center (GVSC) (2023-2025).
12. **Khalid Malik (Sole PI)**, "Deep Forgery Detector", Michigan Translational Research and Commercialization (MTRAC) Innovation Hub; **$92,500**(01/2022-12/2022).
13. **Khalid Malik (Sole PI)**, "A Fully Automated AI-based Personalized Subarachnoid Hemorrhage Prediction Tool", *Brain Aneurysm Foundation*; **$25,000** (09/2021-08/2022).
14. Syed Nassar (PI), Yang LianXiang (co-PI), **Khalid Malik (Senior Personnel)** "IUCRC Phase I: Oakland University: Center for Composite and Hybrid Materials Interfacing (CHMI)" National Science Foundation, **$700,000** (08/2021-07/2026)
15. "Using AI Techniques to predict emergence of infectious diseases and to detect outbreak of pandemics", Ministry of Education, KSA, **PI (USA-team)**, Total: **$1.67 Million**; OU Share: **$*561,204*** (December 2020- November 2025).
16. **Khalid Malik (Sole PI)**, "REU Supplement to ForensicExaminer: Testbed for Benchmarking Digital Audio Forensic Algorithms", *National Science Foundation (NSF),* **$8,000;** (05/2020-08/2020).
17. **Khalid Malik (Sole PI)**, "REU Supplement to ForensicExaminer: Testbed for Benchmarking Digital Audio Forensic Algorithms", *National Science Foundation (NSF),* **$8,000;** (07/2020-08/2020).
18. **Khalid Malik (Sole PI), "**Towards Development of Deepfake Detection Framework", Michigan Space Grant Consortium, **$3,000**; (05/2020-08/2020)
19. **Khalid Malik (Sole PI)**, "REU Supplement to ForensicExaminer: Testbed for Benchmarking Digital Audio Forensic Algorithms", *National Science Foundation (NSF),* **$8,000;** (05/2021-08/2022).

20. **Khalid Malik (Sole PI)**, "REU Supplement to ForensicExaminer: Testbed for Benchmarking Digital Audio Forensic Algorithms", _National Science Foundation (NSF)_, **$8,000;** (06/2022-08/2022).
21. **Khalid Malik (Sole PI)**, "NeuroAssist: An Intelligent Secure Decision Support System for Prediction
    of Brain Aneurysm Rupture", _Brain Aneurysm Foundation_, **$40,000**; (09/2018-09/2019).
22. **Khalid Malik (Sole PI)**, "REU Supplement to ForensicExaminer: Testbed for Benchmarking Digital Audio Forensic Algorithms", _National Science Foundation (NSF)_, **$8,000;** (06/2019-09/2019).
23. **Khalid Malik (PI)**, Hafiz Malik (PI) "SaTC:CORE:Small:Collaborative:ForensicExaminer: Testbed for Benchmarking Digital Audio Forensic Algorithms", _National Science Foundation (NSF)_, **$498,489** ; OU Share $199, 489 (09/2018-09/2022)
24. Huirong Fu (PI), Lunjin Lu (co-PI), **Khalid Malik (Senior Personnel)**, Dae-Kyoo Kim (senior personnel), Anyi Liu (senior Personnel), Amartya Sen (senior Personnel), "REU Site: Undergraduate Computer Research (UnCoRe) in Cyber Security" _National Science Foundation (NSF)_**, $380,000;** (12/2018-11/2021).
25. **Khalid Malik (Sole PI)** "Development of Secure and Privacy Compliant Application and Network Architecture", _Helping Hands for Relief and development (HHRD)_, **$40,000**. (Jan2018- August 2019).
26. **Khalid Malik (Sole PI)** "A Hybrid Ontology Driven and Machine Learning based Decision Support System for the Prediction of Brain Aneurysm Growth" University Research Committee Fellowship, _Oakland University_, **$10,000**. (May 2018- August 2018).
27. Syed Nassar (PI), Yang LianXiang (co-PI), **Khalid Malik (senior Personnel)** "Planning IUCRC Oakland University Center for Digital Joining and Repair" National Science Foundation, $**15,000** (08/2018-12/2018).
28. **Khalid Malik (sole PI)** "Clinical Text Analytics for the Prediction of Brain Aneurysm Rupture", _BorgWarner_, **$2,000**, (2017).
29. **Khalid Malik** (**Sole PI**) "Bridging the semantic gap between physicians and electronic medical records using semantic web and wearable computing technologies", _Oakland University Faculty Research Fellowship_, **$10,000**, 2015
30. **Khalid Malik** (**Sole PI**) "A semantic-based approach for predicting symptomless unprovoked VTE from hidden risk factors in clinical notes and Wearable Sensors", _Center for Biomedical Research, Oakland University_, **$14,000**, 2016.
31. **Khalid Malik** (**Sole PI**) "Semantic based speech tagging for video analytics" Sorrento Partners, **$15,500** (2015- 2016).
32. Jason Wu (PI), **Khalid Malik** (**Co-PI**) "Bolted Joint Design, Analysis, Development, and Validation" **$37,000**, UREC LLC, April 2015
33. **Khalid Malik** (**PI**), Dae-Kyoo Kim (Co-PI) "Using Semantic Web Technologies to Analyze User's Reviews for Brand Reputation," Amerilodge group LLC, Rochester Hills, MI, **$5,000** (2014).

New Program Development

- MS in Cybersecurity, committee chair
- BS in Cybersecurity (approved), committee chair
- BS in health informatics, committee chair

TEACHING

Taught following classes, since 2014, at the Oakland University.

- Cyb202   Cybersecurity Fundamentals II
- CSI 2999   Sophomore Project
- CSI 2470   Introduction to Computer Networks
- CSI 4480/5480   Information Security Practice
- CSI 2520   Interactive Web Systems
- CSI 2300/ CSI 5005   Object-oriented computing

- CSI 5510   Advanced Web design and Application
- CSI 3520   Systems Analysis

MASTER'S THESES AND PH.D. DISSERTATIONS (MAJOR ADVISOR)

Ph.D. Students (Graduated)

1. Fakhare Alam, "Knowledge Net: An automated clinical knowledge graph generation framework for evidence-based medicine" (2023). Currently working as Senior Data Scientist, General Motors.
2. Ahmad Mansour, "A lightweight multi-recipient asymmetric cryptographic scheme and its implementation in VANETs" (Fall 2019); currently Senior Product Security Analyst at Intuitive Surgical.
3. Mazen Alobaidi "Automated disease-drug ontology generation framework powered by linked biomedical ontologies" (Graduated in Winter 2019); currently working as team lead Microfocus
4. Madan Krishnamurthy, "Semantic and statistical analysis-based framework for intracranial aneurysm knowledge curation" (Graduated in summer 2019), currently working as Research Scientist at Elanco
5. Susan Sabra "Prediction of venous thromboembolism using a hybrid knowledge and machine learning approach" (Graduated in winter 2018), currently postdoc researcher at EURECOM.

Ph.D. Students (Current)

1. Muhammad Irfan (2022- current)
2. Anas Raza (2022- current)
3. Awais Khan (2022- current)
4. Muhammad Umar Farooq (2023-current)
5. James Ryan (2024-Current)

MS Students (Graduated)

1. James Ryan, Main advisor, Tamperproofing Autonomy: Using Automotive Digital Twins for Integrity Verification, 2021-2023.
2. Irma Rrushi, Main advisor, Detection of malware in the PowerGrid. 2022-2023
3. Bradley Frink, Main advisor, Explainable Audio Forensic Examiner, 2020- 2022 (currently at Workforce Software Inc)
4. Jeremy Santamaria, Main advisor, Machine learning for subarachnoid hemorrhage prediction, 2017-2022 (currently Resident Physician at Spectrum Health)
5. Hisham Kanaan, Main advisor, A Framework for semantic and privacy enabled clinical data preparation, 2015-2018, (currently at Amazon)
6. Pankaj Chobharkar, Main advisor, Design, and implementation of a chatbot for intracranial aneurysm rupture prediction to assist medical practitioners, 2017-2019, (currently senior product engineer at Stellantis)
7. Kiran Badwaik, Main advisor, Semantic web-based coherent context disambiguation, 2015-2017 (currently at AI software LLC)

MS Students (Current)

1. Yu Park, Main advisor, Federated Learning for subarachnoid hemorrhage prediction using DSA images, 2022-Current.
2. Tram Vo, Main advisor, Cerebral Aneurysm's Growth Prediction using longitudinal MRA imaging data, 2022-Current.

POST-DOC MENTORSHIP EXPERIENCE

1- Dr. Ijaz ul Haq 2022-current
2- Dr. Muhammad Afzal 2019
3- Dr. Ali Javed 2018-2019
4- Dr. Maqbool Hussain 2018-2019

UNDERGRADUATE RESEARCH MENTORSHIP

1. Ziyad Alobaidi, "A Non-Intrusive Approach to Predictive Analysis of Soccer Players: Using Wearable Sensors and Audio Commentary" Fall 2015
2. Benjamin Dickman,"A prototype of Semantic web based Smart Emergency Responder Planning" Winter 2017
3. Andersen Ball "A large scale forgery detection dataset for audio forensics testbed", 2019
4. Brandon Kujawa, "Generative Adversarial Neural Network for creation of synthetic audio dataset", 2019 (Selected for NSF-SATC-undergraduate Track 2019 SaTC PI meeting)
5. Anderson Kim, REU 2019 student, (University of Georgia), "Replay Attack Detection in Multimedia of Things", 2019.
6. Robinson Skyler, REU 2019 student, (University of Yale), "Asymmetric Lightweight Hierarchical Group Key Management Protocol for VANETs", 2019.
7. Thomas Parker, REU 2019 student, (Lehigh University), "Asymmetric Lightweight Hierarchical Group Key Management Protocol for VANETs", 2019.
8. Sydney Hill, REU 2020 student, "Development of Deepfake Detection Framework using Game Theory."
9. Kyle Masiak, REU 2020 student, "Towards Development of Deepfake Detection Framework"
10. Sydney Hill, REU 2021 student, "Using Photoplethysmography features for detection of Deepfakes".
11. Brianna McGraw, REU 2021 student, "Performance analysis of different audio features for the detection of replay voice spoofing"
12. James Ryan, REU 2021 student, "Performance analysis of different audio features for the detection of cloned voice"
13. Brandon Kujawa, REU 2020 student "Impact of facemask on Automatic Speaker Verification"
14. Brandon Kujawa, REU 2021 student "Performance analysis of different audio features for the detection of cloned voice"
15. Parker Goby, REU 2022 student "GPT-3 based Questioning & Answering System for Machine Learning explainability"
16. Sameer Mughal, REU 2022 student, "Comparative analysis of unified models for antispoofing attacks on ASV"
17. Malika Khaira, REU 2022 student, ""Comparative analysis of deep learning models for antispoofing attacks on ASV"
18. Steven Lee, REU 2022 student, "Transformers based models for developing countermeasure to stop attacks on ASV."
19. Zaid Abdelfattah, REU 2022 student, "Comparative analysis of fake audio detection using end-to-end deep learning models."

20. Carl LaGodna, REU 2022 student, "Comparative analysis of deep learning models for antispoofing attacks on ASV"
21. Ryan Raymond, REU 2022 student, "ForensicExaminer: A web-based testbed for comparative analysis of audio forgery detection algorithms"
22. Sachin Sridhar, Undergrad. student UofM Ann Arbor, 2023, " Dataset for fairness-enabled automated speaker verification"

HIGH SCHOOL STUDENTS RESEARCH MENTORSHIP

1. Max Xiao, May 2023- current
2. Vineet Saravanan, June 2023- Current
3. Idrees Malik, May 2023-Current
4. Mikul Saravanan, 2021-2023, Currently pursuing BS in computer Science at Columbia University
5. Shafin Syed Khan, 2022, currently pursuing BS in computer Science at Stanford University
6. Varun Sathyan, 2016-2018, currently pursuing BS in computer Science & Engineering at UC Berkeley College of Engineering

PUBLICATIONS

Journal Papers (Published)
Graduate & Post-doc student names are underlined; Undergraduate student names are in italic and underlined.

1. Muhammad Irfan, Khalid Mahmood Malik, Khan Muhammad, "Federated Fusion Learning with Attention Mechanism for Multi-Client Medical Image Analysis" Information Fusion (2024), [**IF 18.16**]

2. Anas Raza, **Khalid Mahmood Malik**, Ijaz ul Haq, "HolisticDFD: Spatio-Temporal Transformer Embeddings Infusion for Deepfake Detection" Information Sciences (2023), **[IF 8.233].**

3. Ijazul Haq, **Khalid Mahmood Malik**, Khan Muhammad, "Multimodal Neuro-Symbolic Approach for Explainable Deepfake Detection", ACM Transactions on Multimedia Computing Communications and Applications **[IF 4.094]**

4. Hafsa Ilyas, Ali Javed, **Khalid Mahmood Malik**, "Avfakenet: A Unified End-to-End Dense Swin Transformer Deep Learning Model for Audio-Visual Deepfakes Detection", Applied Soft Computing, 2023 **[IF 8.8].**

5. Khan, Awais, **Khalid Mahmood Malik**, James Ryan, and *Mikul Saravanan*. "Battling Voice Spoofing: A Review, Comparative Analysis, and Generalizability Evaluation of State-of-the-Art Voice Spoofing Countermeasures", Artificial Intelligence Review 2023 **[IF 9.588].**

6. Fakhare Alam, Hamed Babaei Giglou, **Khalid Mahmood Malik, "**Automated Clinical Knowledge Graph Generation Framework for Evidence Based Medicine" Expert Systems with Applications, 2023 **[IF 8.5].**

7. Muhammad Irfan, Khalid Mahmood Malik, Jamil Ahmed, Ghaus Malik "StrokeNet: An Automated Approach for Segmentation and Rupture Prediction of Intracranial Aneurysm", Computerized Medical Imaging and Graphics, 2023 [**IF 7.422**]

8. Qamar Abbas, **Khalid Mahmood Malik,** Abdul Khader Jilani Saudagar; M. B. Khan "Context-aggregator: An approach of loss- and class imbalance-aware aggregation in federated learning, Computers in Biology and Medicine, 2023 **[Impact factor 7.7]**.

9. Iram Abdullah, Ali Javed, **Khalid Mahmood Malik**, Ghaus Malik, "DeepInfusion: A Dynamic Infusion based-Neuro-Symbolic AI Model for Segmentation of Intracranial Aneurysms", Neurocomputing, 2023 **[Impact Factor 5.779]**

10. **Khalid Mahmood Malik**, Fakhare Alam, Jeremy Santamaria, Madan Krishnamurthy, and Ghaus Malik. "Toward Grading Subarachnoid Hemorrhage Risk Prediction: A Machine Learning-based Aneurysm Rupture Score." *World Neurosurgery* (2022) **[Impact Factor 2.21]**.

11.   Ilyas, Hafsa, Ali Javed, **Khalid Mahmood Malik**, and Aun Irtaza. "E-Cap Net: an efficient-capsule network for shallow and deepfakes forgery detection." *Multimedia Systems* (2023): 1-16. **[IF 2.63]**

12.   Fakhare Alam , Obieda Ananbeh , **Khalid Mahmood Malik**, Abdulrahman Al Odayani, Ibrahim Bin Hussain, Naoufel Kaabia, Amal Al Aidaroos "Toward Predicting Length of Stay and Identification of Cohort Risk Factors Using Self-Attention Based Transformers and Association Mining: Covid-19 as Phenotype", Diagnostics, 2023 **[IF 3.992]**

13.   Muteb Aljasem, Aun Irtaza, Hafiz Malik, Noushin Saba, *Ali Javed*, **Khalid Mahmood Malik,** and Mohammad Meharmohammadi, "Secure Automatic Speaker Verification (SASV) System through sm-ALTP Features and Asymmetric Bagging", IEEE Transactions on Information Forensics and Security, 2022. **(Impact factor 7.178)**

14.   Ali Javed, **Khalid Mahmood Malik**, Aun Irtaza, and Hafiz Malik, "Voice Spoofing Detector: A Unified Anti-Spoofing Framework" Expert System with applications, 2022 [**IF 8.66**].

15.   Muhammad Irfan, Khan Muhammad, Muhammad Sajjad, **Khalid Mahmood Malik**, Faouzi Alaya Cheikh, Joel JPC Rodrigues, Victor Hugo C de Albuquerque, "Deepview: Deep Learning based Users Field of View Selection in 360∘ Videos for Industrial Environments" IEEE Internet of Things Journal, 2021. **(Impact factor 9.515)**

16.   **Khalid Mahmood Malik**, and Meina Zhu. "Do project-based learning, hands-on activities, and flipped teaching enhance student's learning of introductory theoretical computing classes?" *Education and Information Technologies* (2022): 1-24. **[IF 3.666]**

17.   Momina Masood, Marriam Nawaz, **Khalid Mahmood Malik**, *Ali Javed*, Aun Irtaza, Hafiz Malik "Deepfakes Generation and Detection: State-of-the-art, open challenges, countermeasures, and way forward", Applied Intelligence, Springer, 2022 [**Impact factor 5.086**]

18.   Ullah, Amin, **Khalid Mahmood Malik**, Abdul Khader Jilani Saudagar, Muhammad Badruddin Khan, Mozaherul Hoque Abul Hasanat, Abdullah AlTameem, Mohammed AlKhathami, and Muhammad Sajjad. "COVID-19 Genome Sequence Analysis for New Variant Prediction and Generation" *Mathematics* 10, no. 22 (2022): 4267. **[IF 3.592]**

19.   Awais Khan, *Ali Javed*, **Khalid Mahmood Malik**, Muhammad Anas, James Ryan, and Hafiz Malik "Towards Realigning Automatic Speaker Verification in the Era of COVID-19" Sensors (2022) (**Impact factor 4.38)**

20.   Ullah, Waseem, Amin Ullah, **Khalid Mahmood Malik**, Abdul Khader Jilani Saudagar, Muhammad Badruddin Khan, Mozaherul Hoque Abul Hasanat, Abdullah AlTameem, and Mohammed AlKhathami. "Multi-Stage Temporal Convolution Network for COVID-19 Variant Classification." *Diagnostics* 12, no. 11 (2022): 2736. **[IF 3.992]**

21.   Ahmad, Jamil, Abdul Khader Jilani Saudagar, Khalid Mahmood Malik, Muhammad Badruddin Khan, Abdullah AlTameem, Mohammed Alkhathami, and Mozaherul Hoque Abul Hasanat. "Prognosis Prediction in COVID-19 Patients through Deep Feature Space Reasoning." Diagnostics 13, no. 8 (2023): 1387. **[IF 3.992]**.

22.   *Ali Javed*, **Khalid Mahmood Malik**, Aun Irtaza, and Hafiz Malik "Towards Protecting Cyber-physical and IoT Systems from Single- and Multi-order Voice Spoofing Attacks" Journal of Applied Acoustics,2021 **(Impact factor 2.639)**

23.   Roland Baumann, **Khalid Mahmood Malik**, Ali Javed, *Andersen Ball, Brandon Kujawaa*, Hafiz Malik, "Voice Spoofing Detection Corpus for Single and Multi-order Audio Replays", Computer Speech & Language (2021) **(Impact factor 2.116)**

24.   **Malik, Khalid Mahmood**, Ali Javed, Hafiz Malik, and Syed Aun Irtaza. "A Light-weight Replay Detection Framework for Voice Controlled IoT Devices." *IEEE Journal of Selected Topics in Signal Processing* (2020). **(Impact factor 6.856**)

25.   Mansour, Ahmad, **Malik Khalid Mahmood**, Ahmed Alkaff, and Hisham Kanaan. "ALMS: Asymmetric Lightweight Centralized Group Key Management Protocol for VANETs." *IEEE Transactions on Intelligent Transportation Systems* (2020) **(Impact factor 6.492)**

26.   **Khalid Mahmood Malik**, Mazen Alobaidi, Madan Krishnamurthy, Maqbool Hussain, Fakhare Alam, Ghaus Malik, "Automated Domain-Specific Healthcare Knowledge Graph Curation Framework:

Subarachnoid Hemorrhage as Phenotype" Expert Systems with Applications (2020) **(impact factor 5.452)**

27. Maqbool Hussain, Muhammad Afzal, **Khalid Mahmood Malik**, Taqdir Ali, Wajahat Ali Khan, Muhammad Irfan, Arif Jamshed, Sungyoung Lee, "Acquiring Guideline-enabled data driven clinical knowledge model using formally verified refined knowledge acquisition method", Computer Methods and Programs in Biomedicine, 2020. **(Impact factor 3.632)**

28. Muhammad Afzal, Fakhare Alam, **Khalid Mahmood Malik**, Ghaus Malik "A Clinical Context-aware Biomedical Text Summarization using Deep Neural Network: Model Development and Validation" Journal of Medical Internet Research (JMIR), 2020 **(Impact factor 5.03)**

29. **Khalid Mahmood Malik**, Madan Krishnamurthy, Fakhare Alam, Hesham Mostafa Zakaria, Ghaus M. Malik "Introducing the Rupture Criticality Index to Compare Risk Factors and Risk Factor Combinations Associated with Aneurysmal Rupture" *Journal of World Neurosurgery* **(Impact factor 1.829)**

30. Ahmad Mansour, **Khalid Mahmood Malik**, Niko Kaso, "AMOUN: Lightweight scalable multi-recipient asymmetric cryptographic scheme for wireless group communication", Computer Communication, 2021**(Impact factor 2.816)**

31. Kumar, Abhishek, Kamred Udham Singh, Visvam Devadoss Ambeth Kumar, Tapan Kant, Abdul Khader Jilani Saudagar, Abdullah Al Tameem, Mohammed Al Khathami, Muhammad Badruddin Khan, Mozaherul Hoque Abul Hasanat, and **Khalid Mahmood Malik**. "Robust Watermarking Scheme for NIfTI Medical Images." *CMC-COMPUTERS MATERIALS & CONTINUA* 71, no. 2 (2022): 3107-3125. **[IF 3.86]**

32. Jalil, Zunera, Ahmed Abbasi, Abdul Rehman Javed, Muhammad Badruddin Khan, Mozaherul Hoque Abul Hasanat, **Khalid Mahmood Malik**, and Abdul Khader Jilani Saudagar. "Covid-19 related sentiment analysis using state-of-the-art machine learning and deep learning techniques." *Frontiers in Public Health* 9 (2021) **[IF 6.46]**.

33. Ali Javed, **Khalid Mahmood Malik**, Aun Irtaza, Hafiz Malik, "A Decision Tree Framework for Shot Classification of Field Sports Videos", The Journal of Supercomputing, 2020 (**Impact factor 2.469**).

34. Awais Khan, Aun Irtaza, Ali Javed, Tahira Nazir, Hafiz Malik, **Khalid Mahmood Malik**, Muhammad Ammar Khan, "Defocus Blur Detection using novel Local Directional Mean Patterns and segmentation via KNN Matting" Frontiers of Computer Science, 2020 **(impact factor 1.275)**

35. Kumar, Abhishek, Kamred Udham Singh, Visvam Devadoss Ambeth Kumar, Tapan Kant, Abdul Khader Jilani Saudagar, Abdullah Al Tameem, Mohammed Al Khathami, Muhammad Badruddin Khan, Mozaherul Hoque Abul Hasanat, and **Khalid Mahmood Malik**. "Robust Watermarking Scheme for NIfTI Medical Images." *CMC-COMPUTERS MATERIALS & CONTINUA* 71, no. 2 (2022): 3107-3125.

36. Nazir, Tahira, Marriam Nawaz, Ali Javed, **Khalid Mahmood Malik**, Abdul Khader Jilani Saudagar, Muhammad Badruddin Khan, Mozaherul Hoque Abul Hasanat, Abdullah AlTameem, and Mohammad AlKathami. "COVID-DAI: A novel framework for COVID-19 detection and infection growth estimation using computed tomography images." *Microscopy Research and Technique* (2022). (**Impact factor 2.893)**

37. Jamil Ahmed, **Khalid Malik**, Abdul Khader Jilani Saudagar, Muhammad Badruddin Khan, "Disease Progression Detection via Deep Sequence Learning of Successive Radiographic Scans". International Journal of Environmental Research and Public Health (IJERPH), 2022 **(Impact factor 3.39)**.

38. Qamar Abbas, **Khalid Mahmood Malik**, Abdul Khader Jilani Saudagar, Muhammad Badruddin Khan, Mozaherul Hoque Abul Hasanat, Abdullah AlTameem,and Mohammed AlKhathami. "Convergence Track Based Adaptive Differential Evolution Algorithm (CTbADE)". CMC-Computers, Materials & Continua, 2022.

39. Ali Javed, Tahira Nazir, Marriam Nawaz, **Khalid Malik**, Abdul Khader Jilani Saudagar, Muhammad Badruddin Khan, Mozaherul Hoque Abul Hasanat, Abdullah AlTameem, and Mohammed AlKhathami. "A diagnostic system for COVID-19 detection and growth rate prediction", Microscopy Research technique.

40. Khan Muhammad, Zulfiqar Khan, Abdul Khader Jilani Saudagar, Abdullah AlTameem, Mohammed AlKhathami, Muhammad Badruddin Khan, Mozaherul Hoque Abul Hasanat, **Khalid Malik**, Muhammad Sajjad. "WEENet: An Edge Intelligence-Assisted COVID-19 Detection System for IoMT Environments." Frontiers in Oncology **(Impact factor 5.6)**.

41. Muhammad Afzal, Maqbool Hussain, **Khalid Mahmood Malik** "Automated Query Generation and Quality Recognition to Curate Evidence from Biomedical Literature", JMIR Medical Informatics, 2020 (**Impact Factor 3.188)**

42. Qasim, Iqbal, Mahmood Alam, Shumaila Khan, Abdul Wahid Khan, **Malik, Khalid Mahmood**, Muhammad Saleem, and Syed Ahmad Chan Bukhari. "A comprehensive review of type-2 fuzzy Ontology." *Artificial Intelligence Review* (2019): 1-20. (**Impact factor 5.095)**

43. Sabra Susan, **Malik, Khalid Mahmood**, Afzal Muhammad, Sabeeh Vian, Eddine Charaf A. "A Hybrid Knowledge and Ensemble Classification Approach for Prediction of Venous Thromboembolism" Expert Systems (2019) (**Impact factor 1.546)**.

44. Alobaidi, Mazen, **Khalid Mahmood Malik**, and Susan Sabra "Linked open data-based framework for automatic biomedical ontology generation." *BMC bioinformatics* 19, no. 1 (2018): 319. **(Impact factor 3.242)**

45. **Khalid Mahmood Malik**, Muhammad Shakeel Anjum, Hafiz Malik, Ghaus M. Malik, H. Soltanian-Zadeh "A Novel Framework for Intracranial Saccular Aneurysm Detection and Quantification using Morphological Analysis of Cerebral Angiograms", IEEE Access 6 (2018): 7970-7986, **(Impact factor 4.098)**.

46. Alobaidi, Mazen, **Khalid Mahmood Malik**, and Maqbool Hussain. "Automated Ontology Generation Framework Powered by Linked Biomedical Ontologies for Disease-Drug Domain" *Computer Methods and Programs in Biomedicine 165* (2018): 117-128. **(Impact Factor: 4.292)**

47. Sabra, S., **Khalid Mahmood Malik**, & Alobaidi, M., "Prediction of venous thromboembolism using semantic and sentiment analyses of clinical narratives" Computers in Biology and Medicine (Elsevier), 2018 (*Honors paper*) (**Impact factor 2.286)**.

48. **Khalid Mahmood Malik**, Hisham Kanaan, Vian Sabeeh, Ghaus Malik, "Autonomous, Decentralized and Privacy-Enabled Data Preparation for Evidence-based Medicine with Brain Aneurysm as a Phenotype", IEICE Trans. On communication, 2018 (**Impact factor 1.580)**.

49. Krishnamurthy Madan, Pawel Marcinek, **Khalid Mahmood Malik**, and Muhammad Afzal. "Representing Social Network Patient Data as Evidence-Based Knowledge to Support Decision Making in Disease Progression for Comorbidities." IEEE Access (2018) **(Impact factor 4.098)**.

50. Ali Umar, Amjad Mehmood, Muhammad Faran Majeed, Siraj Muhammad, Muhammad Kamal Khan, Houbing Song, and **Khalid Mahmood Malik**. "Innovative Citizen's Services through Public Cloud in Pakistan: User's Privacy Concerns and Impacts on Adoption." Mobile Networks and Applications (2018): 1-22 **(Impact factor 2.390).**

51. Mehmood, Amjad, Mithun Mukherjee, Syed Hassan Ahmed, Houbing Song, and **Khalid Mahmood Malik**. "NBC-MAIDS: Naïve Bayesian classification technique in multi-agent system-enriched IDS for securing IoT against DDoS attacks" The Journal of Supercomputing (2018): 1-15. **(Impact factor 2.157)**

52. **Khalid Mahmood Malik**, Raza A., Krishnamurthy M., Takahashi H. "Autonomous Decentralized Semantic-based Architecture for Dynamic Content Classification", IEICE Transactions on Communications, Vol.E99-B No.4 pp.849-858, April 2016. (**Impact factor 1.580)**.

53. **Khalid Mahmood Malik**, Alobadi M, Takahashi H. "Autonomous Decentralized Semantic based Traceability Link Recovery Framework" IEICE Transaction on Information and Systems vol. E99-D, no. 9, September 2016. (**Impact factor 1.30)**.

54. Alobaidi, M, **Khalid Mahmood Malik.**, & Sabra, S. "Knowledge Extraction Based on Linked Open Data for Clinical Documentation" The International Journal of Simulation and Process Modelling (IJSPM), Vol 13 No 2, 2016.

55. **Khalid Mahmood Malik.**, X.D. Lu, Y. Horikoshi and K. Mori, "Autonomous Pull-Push Community Construction Technology for High-Assurance", IEICE Trans. on INFO. & SYST., Vol.E92-D, No.10, pp.1836-1846, 2009. (**Impact factor 1.580)**.

56. **Khalid Mahmood Malik.**, X. Lu, K. Mori, "Autonomous Community Construction Technology to Achieve Service Assurance in ADCS", IEICE Trans. on INFO. & SYST., vol. E91-D, No. 9, pp. 2259-2266, Sept. 2008. (**Impact factor 1.580)**.

57. Takahashi H., **Khalid Mahmood Malik.**, K. Mori, "Autonomous L3 Cache Technology for High Responsiveness"; Journal of Information Processing, Vol.20 No.2, pp 358-365, Feb 2012.

58. **Khalid Mahmood Malik** et. al. Secure Banking: Authenticating Peer-to-Peer Ad Hoc Interactions, Journal of Applied Science, vol. 3, Issue 5, p.346-359.

B- Journals (under-review and conditionally accepted)

Graduate student names are underlined; Undergraduate student names are in italic and underlined.

1. Muhammad Umar Farooq, Awais Khan, Ijaz Ul Haq, and Khalid Mahmood Malik, "Preserving Trust in Social Media: A Unified Approach to Combating Deepfake Disinformation" IEEE TRANSACTIONS ON COMPUTATIONAL SOCIAL SYSTEMS, 2024 (submitted)

2. Khan, Awais, Ijaz Ul Haq and **Khalid Mahmood Malik** "Parallel Stacked Aggregated Network for Voice Authentication in IoT-Enabled Smart Devices" ACM Transactions on Multimedia Computing Communications and Applications, 2024(submitted)

C- Conferences (peer-reviewed)

1. Khan, Awais, and **Khalid Mahmood Malik,** Shah Nawaz, "Frame-to-Utterance Convergence: A Spectra-Temporal Approach for Unified Spoofing Detection" IEEE ICASSP 2024.

2. Khan, Awais, and **Khalid Mahmood Malik**, "Securing Voice Biometrics: One-Shot Learning Approach for Synthetic Deepfake Detection", In *2023 IEEE International Workshop on Information Forensics and Security (WIFS)*, pp. 1-6. IEEE, 2023.

3. Raza, Muhammad Anas, and **Khalid Mahmood Malik**. "Multimodaltrace: Deepfake Detection Using Audiovisual Representation Learning." In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*, pp. 993-1000. 2023.

4. Fatima Khalid, Ali Javed, **Khalid Mahmood Malik,** and Aun Irtaza, "DFP-Net: An explainable and trustworthy framework for detecting deepfakes using interpretable prototypes" 2023 IEEE International Joint Conference on Biometrics

5. Khan, Awais, and **Khalid Mahmood Malik**. "SpoTNet: A spoofing-aware Transformer Network for Effective Synthetic Speech Detection." In *Proceedings of the 2nd ACM International Workshop on Multimedia AI against Disinformation*, pp. 10-18. 2023.

6. *Alam, F., Malik, **Khalid Mahmood Malik** & Krishnamurthy, M "NeuroClustr: Empowering Biomedical Text Clustering with Neuro-Symbolic". Intelligence International Joint Conference on Artificial Intelligence 2023 Workshop on Knowledge-Based Compositional Generalization, 2023*

7. Khalid, Fatima, Ali Javed, Aun Irtaza, and **Khalid Mahmood Malik**. "Deepfakes Catcher: A Novel Fused Truncated DenseNet Model for Deepfakes Detection." In *Proceedings of International Conference on Information Technology and Applications: ICITA 2022*, pp. 239-250. Singapore: Springer Nature Singapore, 2023.

8. Fatima, Syeda Arooj, Adeel Zafar, and **Khalid Mahmood Malik**. "YouFake: A Novel Multi-Modal Dataset for Fake News Classification." In *2023 3rd International Conference on Artificial Intelligence (ICAI)*, pp. 148-152. IEEE, 2023.

9. Yousra Zafar and Ali Javed, **Khalid Mahmood Malik**, Jeremy Santamaria, Ghaus Malik, "A Diagnostic System for Intracranial Saccular and Fusiform Aneurysm with Location Detection" IEEE BHI -BSN 2021

10. Muhammad Umar Farooq, Ali Javed, **Khalid M. Malik**, A Lightweight and Interpretable Deepfakes Detection Framework, ICAETA-2021

11. **Khalid Mahmood Malik**, Hafiz Malik, and Roland Baumann. "Towards Vulnerability Analysis of Voice-Driven Interfaces and Countermeasures for Replay Attacks." In *2019 IEEE Conference on Multimedia Information Processing and Retrieval (MIPR)*, pp. 523-528. IEEE, 2019.

12. Fakhare Alam, Muhammad Afzal, **Khalid Malik, "***Comparative Analysis of Semantic Similarity Techniques for Medical Text"* 2020 International Conference on Information Networking (ICOIN) 2020 (accepted).

13. Faaiza Rashid, Aun Irtaza, Nudrat Nida, Ali Javed, Hafiz Malik, **Khalid Mahmood Malik**, "Segmenting melanoma Lesion using Single Shot Detector (SSD) and Level Set Segmentation Technique" IEEE 13th International Conference on Mathematics Actuarial, Computer Science and Statistics, 2019

14. Mansour Ahmad, **Khalid Mahmood Malik**, and Niko Kaso. "AMOUN: Lightweight Scalable Multi-recipient Asymmetric Cryptographic Scheme." In *2019 IEEE 9th Annual Computing and Communication Workshop and Conference (CCWC)*, pp. 0838-0846. IEEE, 2019.

15. Hafeez, A., **Khalid Mahmood Malik**, and Malik, H., "Exploiting Frequency Response for the Identification of Microphone using Artificial Neural Networks," in Proc. AES Int. Conf. Audio Forensics 2019, Porto, Portugal, June 18 – 20, 2019.

16. **Khalid Mahmood Malik**, Krishnamurthy M, Ghaus Malik "Impact of size, location, symptomatic-nature and gender on the rupture of saccular intracranial aneurysms" Proc. of IEEE/ACM ASONAM 2018**.**

17. Muhammad Shakeel Anjum, **Khalid Mahmood Malik,** Hafiz Malik, Ghaus M. Malik, H. Soltanian-Zadeh Saccular Brain Aneurysm Detection and Multiclassifier Rupture Prediction using Digital Subtraction and Magnetic Resonance Angiograms, Proc. ACM ICBMS 2018, Okinawa, Japan

18. **Khalid Mahmood Malik**, *Varun Sathyan*, Hisham Kanaan, Ghaus M. Malik, Hafiz Malik "Autonomous Decentralized Privacy-enabled Data Preparation Architecture for Multicenter Clinical Observational Research", Proc. Of *2017 IEEE 13th International Symposium on Autonomous Decentralized System (ISADS)*, Bangkok, 2017, pp. 114-121.

19. Azeem Hafeez, Hafiz Malik and **Khalid Mahmood Malik**, "Performance of Blind Microphone Recognition Algorithms in the Presence of Anti-Forensic Attacks" 2017 AES International Conference on Audio Forensics, 2017, VA, USA.

20. Sabra, S., **Khalid Mahmood Malik** & Alobaidi M. "A Semantic Extraction and Sentimental Assessment of Risk Factors (SESARF): An NLP Approach for Precision Medicine" 2*017 IEEE 41st Annual Computer Software and Applications Conference (COMPSAC)*, Turin, 2017, pp. 131-136.

21. Hisham Kanaan, **Khalid Mahmood Malik**, *Varun Sathyan*, "An Ontological Model for Privacy in Emerging Decentralized Healthcare Systems", Proc. Of IEEE 13th International Symposium on Autonomous Decentralized Systems (ISADS), 2017.

22. Hiro Takahashi, **Khalid Mahmood Malik**, Uzair Lakahani, "Autonomous Decentralized Kernel Cache Architecture for Multi Ontology Based Information Extraction" Proc. Of IEEE 13th International Symposium on Autonomous Decentralized Systems (ISADS), 2017.

23. Kiran Badwaik, **Khalid Mahmood Malik**, Asif Raza, "Towards applying OCR and semantic web to achieve optimal learning experience", Proc. of *2017* IEEE 13th International Symposium on Autonomous Decentralized System *(ISADS)*, Bangkok, 2017, pp. 262-267

24. Krishnamurthy M, **Khalid Mahmood Malik** "A Hybrid Statistical and Semantic Model for Identification of Mental Health and Behavioral Disorders using Social Network Analysis", Proc. Of *2016 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM)*, San Francisco, CA, 2016, pp. 1019-1026.

25. Joon Ha Lee, **Khalid Mahmood Malik**, Sayed A. Nassar, "Effect of Key Variable Combinations on the Vibration-Induced, Loosening of Preloaded Fasteners", ASME IMECE Phoenix, Arizona, USA, November 11–17, 2016.

26. Sabra, S., **Khalid Mahmood Malik** & Alobaidi, M., "Semantic-based Approach for Predicting Venous Thromboembolism using Kohonen Self Organized Map Neural Network", *2016 IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI)*, Las Vegas, NV, 2016, pp. 106-109.

27. **Khalid Mahmood Malik**, Hironao Takahashi, Mazen Alobaidi "A Semantic Approach for Traceability Link Recovery in Aerospace Requirements Management System". IEEE ISADS 2015: 217-222, Taichung, Taiwan

28. Mazen Alobaidi, **Khalid Mahmood Malik** "Semantic Approach for Traceability Link Recovery Using Uniform Resource Identifier – STURI, SERP'15: The 2015 International Conference on Software Engineering Research and Practice, July 2015, Las Vegas, USA

29. Asad Ullah Rafiq Khan, Mohammad Badruddin Khan, **Khalid Mahmood Malik** "Cloud Service for Assessment of News Popularity in Internet based on Google and Wikipedia Indicators" 5th IEEE national symposium on Information Technology: Towards New Smart World 2015 (NSITNSW'2015); Riyadh, KSA.

30. **Khalid Mahmood Malik**, Hironao Takahashi, Asif Raza, Asma Qaiser, Aadil Farooqui, "Semantic based Highly Accurate Autonomous Decentralized URL Classification System for Web Filtering" Proc. Of IEEE 12th International Symposium on Autonomous Decentralized Systems (ISADS), Taichung, Taiwan, pp: 17-24 March 25-27, 2015.

31. Takahashi Hironao, **Khalid Mahmood Malik**, Takahashi, Rikyo, Mori, Kinji "Emotion Sense Ontology to avoid Human error in Autonomous Decentralized Multi-Layered Cache System" IEEE Proc. of ISADS 2013, Mexico City, Mexico, March 2013.

32. Hironao Takahashi, **Khalid Mahmood Malik**., Uzair Lakhani: Autonomous Decentralized Semantic Based URL Filtering System for Low Latency. IEEE ISADS 2015: pp: 9-16, March 25-27, 2015

33. **Khalid Mahmood Malik**., Hironao Takahashi, Yasukai Arakawa "Gateway Access Permission Technology for High Assurance" 32nd International Conference on Distributed Computing Systems Workshops, China, 2012.
34. **Khalid Mahmood Malik**., Hiro Takahashi, Xiaodong Lu and K. Mori, "Autonomous Decentralized Community System for Provision of Service-Assurance to Local Majority Users" IEEE Proc. of ISADS 2011, Tokyo, Japan, 2011.
35. **Khalid Mahmood Malik**., S. Niki, Xiaodong Lu and K. Mori, "Autonomous Hybrid Pull-Push Context-aware Community Service Dissemination Technology to Achieve High Assurance", IEEE Proc. of ISADS 2009, pp.499-506, Athens, Greece, March 2009.
36. S. Niki, S. Murakami, **Khalid Mahmood Malik**, Xiaodong Lu and K. Mori, "Autonomous Decentralized Community Wireless Sensor Network System Architecture to Achieve High-Speed Connectivity under Dynamical Situation", IEEE Proc. of ISADS 2009, pp.297-304, Athens, Greece, March 2009.
37. **Khalid Mahmood Malik**., Y. Kanamaru, Xiaodong and K. Mori, "Autonomous Decentralized Community Construction Technology for High Quality Information Service", IEEE Proc. of the 28th International Conference on Distributed Computing Systems Workshops (ICDCSW), pp.563-568, Beijing, China, June 2008.
38. **Khalid Mahmood Malik**., Y. Horikoshi, S. Niki, X.D. Lu and K. Mori, "Progressive Ripple-Based Service Discovery for High Response Time in Autonomous Decentralized Community System", IEEE Proc. of FTDCS 2008, pp.81-87, Kunming, China, October 2008.
39. **Khalid Mahmood Malik**., S. Niki, X. Lu, K. Mori "Context-cognizant community construction in Autonomous Decentralized Community System to Achieve Timeliness, CSA 2008, Hobert, Australia, 2008.
40. **Khalid Mahmood Malik.,** S. Niki, X.D. Lu and K. Mori, "A Novel Ripple-based Context-cognizant Service Discovery Method in Autonomous Decentralized Community System", IEEE Proc. of the 11th High Assurance Systems Engineering Symposium (HASE), pp.405-413, Nanjing, China, December 2008.
41. **Khalid Mahmood Malik**., S. Niki, Y. Nakahara, X.D. Lu, I. Luque and K. Mori, "Autonomous Real-Time Navigation for Service Level Agreement in Distributed Information Service System", IEEE Proc. of ISADS2007, pp.231-238, Sedona, USA, March 2007.

E. Invited Seminars and Other Presentations

1. **Khalid Mahmood Malik** "The Potential and Pitfalls of Artificial Intelligence in Medicine - A case of Subarachnoid Hemorrhage Prediction", 2023 Neurosurgery Grand Rounds, USA January 2023 (Talk)
2. **Khalid Mahmood Malik** "NeuroAssist: An Intelligent Decision Support System for Prediction of Brain Aneurysm Rupture", 2022 BAF Research Symposium, Pasadena, Washington, USA September 2022 (Talk)
3. **Khalid Mahmood Malik** "NeuroAssist: An Intelligent Decision Support System for Prediction of Brain Aneurysm Rupture", 2022 BAF Research Symposium, Pasadena, Arizona, USA September 2021 (Talk)
4. **Khalid Mahmood Malik**, Ghaus Malik, "A Novel Machine Learning Model for Rupture Prediction of Saccular Intracranial Aneurysm", AHA Stroke, Los Angeles, CA, 2020.
5. **Khalid Mahmood Malik**, "ForensicExaminer: Testbed for Benchmarking Digital Audio Forensic Algorithm", 2019 SaTC PI meeting, Alexandaria, VA, October 2019 (Poster).
6. **Khalid Mahmood Malik** "NeuroAssist: An Intelligent Decision Support System for Prediction of Brain Aneurysm Rupture", 2019 BAF Research Symposium, Pasadena, CA, USA September 2019 (Talk)
7. **Khalid Mahmood Malik**, "StrokeAssistant: A hybrid knowledge and ensemble (KNOWBLE) learning framework for prediction of stroke", Tohoku University, Sendai, Japan, November 2018 (Invited Speaker).
8. **Khalid Mahmood Malik** "Decision Support System for Prediction of Brain Aneurysm Rupture using DSA", 2018 BAF Research Symposium, Pittsburgh, USA, September 2018 (Invited Talk)

9. **Khalid Mahmood Malik**, *Kiran Badwaik* "Context Aware Semantic Enabled Video Learning System" poster presentation, E-cornucopia, Oakland University, Rochester, Mi, June 23, 2017 (Poster)

10. **Khalid Mahmood Malik** "Hybrid Machine Learning and Knowledge-based Design and Analysis Tool for Optimizing Threaded Composite Joint Systems under Static and Dynamic Loads**"** Georgia Tech, NSF Planning meeting for IUCRC for Composite Joining centers at OU, GT, and UTK, 2019 (Talk)

11. Brandon Kujawa, **Khalid Mahmood Malik,** "Nth- order Replay Attack Detection in Internet of Things**",** 2019 SaTC PI meeting, Alexandaria, VA, October 2019. (Poster)

12. *Anderson Kim*, Ali Javed, **Khalid Mahmood Malik**. "Replay Attack Detection in Multimedia of Things (MoT)". The 2019 Mid-Michigan Symposium for Undergraduate Research Experiences (Mid-SURE '19), Lansing, MI, USA. (Poster)

13. *Skyler Robinson, Thomas Parker*, Ahmad Mansour, **Khalid Mahmood Malik** "Asymmetric Lightweight Hierarchical Group Key Management Protocol for VANETs" The 2019 Mid-Michigan Symposium for Undergraduate Research Experiences (Mid-SURE '19), Lansing, MI, USA. (Poster)

14. **Khalid Mahmood Malik** "Concept-oriented Transformation", Moderator, Industrial forum ISADS 2015, Taiwan, March 23, 2015. (Invited Talk)

PROFESSIONAL ACTIVITIES AND SERVICE

Panel Reviewer

- National Science Foundation (NSF), Proposal Evaluation Panel, November 2023
- National Science Foundation (NSF), Proposal Evaluation Panel, October 2023
- National Science Foundation (NSF), Proposal Evaluation Panel, August 2023
- National Science Foundation (NSF), Proposal Evaluation Panel, March 2023
- National Science Foundation (NSF), Proposal Evaluation Panel, 2022
- Austrian Science Fund (FWF), Proposal Evaluation, 2022
- National Science Foundation (NSF), Proposal Evaluation Panel, Washington D.C., 2020
- US Army, Proposal Evaluation, 2019
- National Science Foundation (NSF), Proposal Evaluation Panel, Washington D.C., 2019
- Oakland University, OU Provost award, 2018

Reviewer Journals

- Reviewer, IEEE Transaction on Intelligent Transportation Systems, 2020 and 2021
- Reviewer, IEEE/ACM Transactions on Audio, Speech, and Language Processing, 2023
- Reviewer, PLOS ONE, 2023
- Reviewer, Journal of Digital Imaging, 2023
- Reviewer, Journal of Clinical Neuroscience, 2023
- Journal of computers and security, 2023
- Reviewer, Expert Systems with Applications, 2020- 2023
- Reviewer, Journal of Computers in Biology and Medicine, 2019, 2020
- Reviewer, IEEE Transactions on Medical Imaging, 2018-2023
- Reviewer, IEEE Journal of Biomedical and Health Informatics, 2017
- Reviewer, IEEE Communication Magazine, 2018
- Reviewer, Health Informatics Journal, 2017

- Reviewer IEICE Transactions on Communication, 2017

Journal Editorial Board and Conference Organizing Committee

- Senior Program committee member ICSOC 2023
- Program committee, ACM Cysoc 2022, ACM Cysoc 2023
- Program committee member ICSOC 2022
- Program committee, IEEE ICMLA 2022
- Program Committee, ASVspoof 2021
- Program committee, IEEE ICMLA 2021
- Publicity chair, 5th IEEE Int'l Conf. on Smart City Innovations 2021
- Guest Editor, IEICE Transactions on Communication, 2017. Special Issue on "Special Section on Autonomous Decentralized Systems Technologies and Approaches".
- Guest Editor, IEICE Transactions on Communication, 2015, Special Issue on "Autonomous Decentralized Systems Technologies and Applications for Next-Generation Social Infrastructure".

Service at Oakland University

- Chair, Graduate Affair Committee, Department of Computer Science and Engineering 2022
- Member, Graduate Affair Committee, School of Engineering and Computer Science 2022
- Chair, BS in Cybersecurity degree program development, 2021-2023
- Chair, Computer Science -AI Open Rank Search Committee, 2021-2022
- Chair, Faculty Search Committee, 2020-2021
- Reviewer, BS in cybersecurity, UofM Flint proposal, 2021
- Reviewer, BS in cybersecurity, Central Michigan University, 2022
- Member, Senate Planning Review Committee, 2021-2023
- Chair, Faculty Search Committee, 2019-2020
- Member, Master's in cyber security program, 2014-2019
- Member, Undergraduate Affairs Committee, 2015-April 2021
- Member, Graduate Affairs Committee, 2017-2020
- Member, School of Engineering and Computer Science Scholarship Committee, 2019-2020
- Member, Campus Development and Environment Committee, 2017- 2019