

CURRICULUM VITAE

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PERSONAL INFO.

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EDUCATION:

2005-2011 **Ph.D. in Computer Engineering** (Software)

Iran University of Science and Technology, Tehran, Iran.

Ph.D. Thesis: Real-Time Query Processing in Data Stream Management System

Supervisor: Dr. M. Haghjoo

Advisor: Prof. M. Sharifi

2001-2004 **M.Sc. in Computer Engineering** (Software)

Ferdowsi University, Mashhad, Iran.

M.Sc. Thesis: MPLS Traffic Engineering Using Constraint-Based Routing

Supervisor: Prof. M. H. Yaghmae Moghadam

1997- 2001 **B.Sc. in Computer Engineering** (Software)

Air University, Tehran, Iran.

RESEARCH INTERESTS:

- o Data Science and Data Management in Healthcare
- o Generative and Agentic AI in Healthcare
- o IoT, Pervasive Medical Systems and Wearable Technologies
- o Personalized Medicine

HONORS:

- o Distinguished Researcher, Tarbiat Modares University, 2021
- o Awarded First Rank in B.Sc. in Computer Engineering at Air University, 2001.

WORK EXPERIENCE:

April 2025- present

Information Technology Organization of Iran

IT Consultant of the Chairman (CTO of Smart Government project of the organization)

Oct. 2024- present

ICT research institute, Tarbiat Modares University

Director, NBIC science and technologies Research Department

Jul. 2024- present

NBML (National Brain Mapping Lab. of Iran)

Director, BioBank (Design of Architecture and Development of Open Brain Mapping-Data Platform)

Nov. 2023- Dec. 2024

ESMIran International Company

IT Consultant (design of IoT-based data management and analytics solutions)

Nov. 2023- April 2025

Deeds and Properties Registration Organization of Iran

IT Consultant (CTO of Digital Transformation project of the organization)

March 2021- March 2023

RahNama Startup Company (Indoor Positioning and Navigation System)

CEO and Co-Founder

Senior Data Scientist

Dec. 2020 – present

Tarbiat Modares University, Tehran, Iran

Biomedical Informatics Department (Associate Professor)

Sep. 2018- present

Tarbiat Modares University, Tehran, Iran

Data Science Interdisciplinary Department (Adjunct Professor)

Feb 2018 – March 2021

PadidAR-VR Startup Company (Augmented and Virtual Reality Application Development for Medical and Healthcare)

CEO and Co-Founder

March 2017- Jan 2023

Tarbiat Modares University

DEPARTMENT OF BIOMEDICAL INFORMATICS (Head of the Department)

March 2016 - Sep.2016
ORCHID Pharmed Company
IT Consultant

Dec.2014 - March 2017
Ministry of Science, Research, and technology
RAIRO Office (Vice-chancellor of general manager)

June 2014- June 2016
Tarbiat Modares University, Tehran, Iran
Faculty of Medical Science (IT Manager)

Feb. 2014 – Dec. 2020
Tarbiat Modares University, Tehran, Iran
Biomedical Informatics Department (Assistant professor)

June 2013- Feb 2014
K.N. Toosi University of Technology, Tehran, Iran
Faculty of Computer Engineering (Deputy of F. & H.R.)

Nov. 2012- Nov. 2013
K.N. Toosi University of Technology, Tehran, Iran
Faculty of Electrical and Computer Engineering (IT Manager)

Sep. 2012- Feb. 2014
K.N. Toosi University of Technology, Tehran, Iran
Computer Engineering Department (Assistant professor)

Sep. 2008- Sep. 2012
ISIRAN Company, Tehran, Iran
R&D Center for Fundamental Software (Technical Vice-Chancellor),
National DBMS Development (Project Manager)

2001-2003
Iran Telecommunication Research Center (ITRC), Tehran, Iran
Researcher

TEACHING EXPERIENCE (postgraduate):

- Data Mining and Knowledge Discovery from Data
- Medical Software Design
- BioInformatics
- Data-Intensive Computing
- Clinical Decision Support Systems (CDSSs)

- Electronic Health Record (EHR) Systems
- Medical Information Systems: Design and Evaluation
- Distributed Systems
- Database Security
- Advanced Databases/ Modern Data Management
- Advanced Software Engineering
- Free/Open-Source Software (FOSS) Development

PUBLICATIONS:

BOOKS:

1. Safaei, Ali A. **"Principles of Healthcare Information Systems Development"**, Tarbiat Modares University Publications, 2025 (in Persian) https://pub.modares.ac.ir/book_treasure.php?mod=viewbook&book_id=461&sid=1&slc_lang=fa
2. Safaei, Ali A. **"Parallel processing of data streams"**, LAP LAMBERT Academic Publishing, 2017 <https://www.amazon.com/Parallel-Processing-Data-Streams-Safaei/dp/3330031174> .
3. Haghjoo Mostafa S., Safaei Ali A., **"Database Systems: Theory and Application"**, 2nd volume: Advanced Concepts, Iran University of Science and Technology publications, 2007 (in Persian).

Precontracts with publishers:

1. Jahani H, Safaei AA. **"Neural signals processing using deep learning for diagnosis of cognitive disorders"**. In Signal Processing Strategies 2025 Jan 1 (pp. 91-118). Academic Press. <https://doi.org/10.1016/B978-0-323-95437-2.00005-7>

JOURNAL PAPERS:

1. Nasiri Khoshroudi S. H., Safaei A. A., Soleimanjahi H., **"A NoSQL document based eCRF system for study of vaccines with variable adverse events case study on COVID19 vaccines"**, Journal of Scientific Reports, (2025) 15:20453, <https://doi.org/10.1038/s41598-025-05746-y>.
2. Ansari, R., Rezayi, S., Safaei, A. A., Mollazadeh, R., Rezaei, E., Mafinejad, M. K., Namazi, S. & Mohammadi, K. **"Design and Evaluation of ACAFiB-APP, a clinical decision support system for anticoagulant considerations in patients with atrial fibrillation."** BMC Cardiovascular Disorders, 25(1), 166, (2025) <https://doi.org/10.1186/s12872-025-04615-w>
3. Hashemikamangar, S. S., Sooratgar, A., Khayamzadeh, M., Momeni, S., Safaei, A. A., & Behniafar, B. **"Design and evaluation of screening and self-care (mobile) application for oral and dental problems and emergencies."** Journal of Oral Biology and Craniofacial Research, 15(1), 113-122. (2025) <https://doi.org/10.1016/j.jobcr.2024.12.016>.

4. Naseri H., Safaei, A.A., **“Diagnosis and Prognosis of Melanoma from Dermoscopy Images using Machine Learning or Deep Learning A systematic literature review”**, Journal of BMC Cancer 25, 75(2025). [DoI: 10.1186/s12885-024-13423-y](https://doi.org/10.1186/s12885-024-13423-y).
5. Hashemikamangar S.S, Sooratgar A., Khayamzadeh M., Momeni Sh., Safaei A.A., Behniafar B.,**“Design and evaluation of screening and self-care (mobile) application for oral and dental problems and emergencies”**, Journal of Oral Biology and Craniofacial Research, Volume 15, Issue 1, (2025), Pages 113-122 [DoI: 10.1016/j.jobcr.2024.12.016](https://doi.org/10.1016/j.jobcr.2024.12.016)
6. PourSaeid R., Mohammadzadeh, M., Safaei, A.A., **“Survival Prediction of Glioblastoma Patients Using Machine Learning and Deep Learning: A Systematic Review”**, Journal of BMC Cancer (2024) [DoI: 10.1186/s12885-024-13320-4](https://doi.org/10.1186/s12885-024-13320-4).
7. Sherafatmandjoo, H., Safaei, A.A., Ghaderi, F., Allameh, F. **"Prostate Cancer Diagnosis Based on Multi-Parametric MRI, Clinical and Pathological Factors Using Deep Learning"**. Journal of Scientific Reports, (2024) [https://doi: 10.1038/s41598-024-65354-0](https://doi.org/10.1038/s41598-024-65354-0).
8. Safaei S., Mirabi M., Safaei A. A., **“StreamFilter: a framework for distributed processing of range queries over streaming data with fine-grained access control”**, Cluster Comput (2024). <https://doi.org/10.1007/s10586-024-04402-w>
9. Jahani H, Safaei AA. **“Efficient Deep Learning Approach for Diagnosis of Attention-Deficit/Hyperactivity Disorder in Children Based on EEG Signals”**. Cognitive Computation. 2024 May 31:1-6. [DOI:10.1007/s12559-024-10302-3](https://doi.org/10.1007/s12559-024-10302-3).
10. Safaei, S., Mirabi, M., Rahmani, A.M. Safaei A.A., **“A distributed B+Tree indexing method for processing range queries over streaming data”**. Cluster Comput 27, 1251–1274 (2024). <https://doi.org/10.1007/s10586-023-04015-9>
11. Forouzesfar, P., Safaei A.A., Ghaderi F., Hashemi Kamangar, S., **“Dental Caries classification from Bitewing images using CNNs”**. Journal of BMC Oral Health, 24(211), 2024. [DOI:10.1186/s12903-024-03973-9](https://doi.org/10.1186/s12903-024-03973-9)
12. Almaspoor, M.H., Safaei A.A., Salajegheh A., Minaei-Bidgoli, B. **“Distributed Independent Vector Machine for Big Data Classification”**. Journal of Supercomputing, Volume 80, pages 7207–7244, (2024)
13. Forouzesfar P., Safaei A.A., Ghaderi F., Hashemikamangar S., Kaviani, H., Haghi S., **“Dental Caries Diagnosis using Neural Networks and Deep Learning: A Systematic Review”**, Journal of Multimedia Tools and Applications, Volume 83, pages 30423–30466, (2024).
14. Nasiri Khoshroudi S H, Safaei A.A., Soleimanjahi H., **"Conceptual Model and Requirements of an Electronic Case Report Form to Collect a Minimum Data Set of Complications of the COVID-19 Vaccine"**. Journal of Health and Biomedical Informatics, 2023; 10 (3):294-308.
15. Alahdadi A., Safaei A.A., Ebadi M. J., **“A truthful and budget-balanced double auction model for resource allocation in cloud computing”**, Journal of Soft Computing, 2023 Apr 18:1-22. <https://doi.org/10.1007/s00500-023-08081-4>
16. Kazemzadeh F., Safaei A.A., Mirzarezaee M., Afsharian S., Kosarirad H., **“Determination of Influential Nodes based on the Communities’ Structure to**

- Maximize Influence in Social Networks**", Neurocomputing, 2023 May 14;534:18-28.
<https://doi.org/10.1016/j.neucom.2023.02.059>
17. Anvari Sadi Z., Safaei, A.A., **"A Narrative Review of Blockchain in Healthcare: Applications and challenges"**, Journal of Health and Biomedical Informatics, 9(3) 2022
[doi: 10.34172/jhbmi.2022.07](https://doi.org/10.34172/jhbmi.2022.07)
 18. Fouladi, S., Safaei, A.A., Arshad, N.I. Ebadi M. J., Ahmadian A., **"The use of artificial neural networks to diagnose Alzheimer's disease from brain images"**. Multimedia Tools and Applications 2022. <https://doi.org/10.1007/s11042-022-13506-7>
 19. Fouldai S., Safaei A. A., Ebadi M. J., Mammone N., Ghaderi F., **"Efficient Deep Neural Networks for Classification of Alzheimer's disease and Mild Cognitive Impairment from Scalp EEG Recordings"**, Cognitive Computation 2022 Jun 6:1-22
 20. Tanhapour M, Safaei A. A., Shakibian H. **"Personal health record system based on social network analysis"**. Multimedia Tools and Applications. 81(19) 27601–27628 2022
<https://doi.org/10.1007/s11042-022-12910-3>
 21. Kazemzadeh F, Safaei A. A., Mirzarezaee M. **"Influence maximization in social networks using effective community detection"**. Physica A: Statistical Mechanics and its Applications. 2022 Apr 4:127314.
 22. Alamdari PM, Navimipour NJ, Hosseinzadeh M, Safaei A. A., Darwesh A. **"An image-based product recommendation for E-commerce applications using convolutional neural networks"**. Acta Informatica Pragensia. 2022;11(1):15-35.
 23. Mostajabi F, Safaei A. A., Sahafi A. **"A Systematic Review of Data Models for the Big Data Problems"**. IEEE Access. 2021 Sep 14;doi: 10.1109/ACCESS.2021.3112880
 24. Safaei A. A. **"Hybrid fragmentation of medical images' attributes for multidimensional indexing"**. Cluster Computing. 2022 Feb; 25(1):215-30.
[DOI:10.1007/s10586-021-03356-7](https://doi.org/10.1007/s10586-021-03356-7).
 25. Safaei A. A. **"Text-based multi-dimensional medical images retrieval according to the features-usage correlation"**. Medical & Biological Engineering & Computing. 2021 Oct;59(10):1993-2017.. <https://doi.org/10.1007/s11517-021-02392-0>
 26. Fouladi Saman, Ebadi M.J., Safaei Ali A., Bajuri Mohd Yazid, Ahmadian Ali, **"Efficient deep neural networks for classification of COVID-19 based on CT images: Virtualization via software defined radio"**, Journal of Computer Communications, (2021). Volume 176, Pages 234-248 <https://doi.org/10.1016/j.comcom.2021.06.011>
 27. Safaei Ali A., and Saeede HabibiAsl. **"Diamond: multi-dimensional indexing technique for medical images retrieval using vertical fragmentation approach."** Journal of Supercomputing, 2021, 77(7), 7089-7148.
 28. Rezayi Sorayya, Safaei Ali A., Mohammadzadeh Niloofar, **"Design and Evaluation of a Wearable Smart Blanket System for Monitoring Vital Signs of Patients in an Ambulance"**, Journal of Sensor, Volume 2021, Article ID 8820740, 11 pages.
 29. Narges Momenian, Safaei, Ali A., Sedigheh HantooshZadeh, **"Immersive Virtual Reality Analgesia in Un-medicated Laboring Women (during stage 1 and 2): A Randomized Controlled Trial"**, Clinical and Experimental Obstetrics & Gynecology 48.1 (2021): 110-116.
 30. Safaei A. A., Habibi-Asl S. **"Multidimensional indexing technique for medical images retrieval"**. Intelligent Data Analysis. 2021 Jan 1;25(6):1629-66.

31. Malekpour Alamdari Pegah, Jafari Navimipour Nima, Hosseinzadeh Mehdi, Safaei Ali A., and Darwesh Aso. **"A Systematic Study on the Recommender Systems in the E-Commerce."** IEEE Access 8 (2020): 115694-115716
32. Fouladi S, Safaei Ali A. **"Differential Diagnostic Methods for Cognitive Disorders Using Neural Networks Based on Electroencephalogram Signals: A Systematic Review."** Shefaye Khatam. 2020; 9 (1) :152-165
33. Safaei Ali A., and Safaei Sayyed Saeid. **"Modeling a semantic recommender system for medical prescriptions and drug interaction detection."** Koomesh 22, no. 1 (2020): 145-154.
34. Jafari, Akbar, and Safaei Ali A. **"Design and Review of Virtual Reality (VR) System for Treating Patients with Height and Darkness Phobia."** Journal of Payavard Salamat 13, no. 6 (2020): 439-449.
35. Yazdani, Azita, Safaei Ali A., Reza Safdari, and Maryam Zahmatkeshan. **"Diagnosis of Breast Cancer Using Decision Tree, Artificial Neural Network and Naive Bayes to Provide a Native Model for Fars Province."** Journal of Payavard Salamat 13, no. 3 (2019): 0-0.
36. Sadoughi F, and Safaei Ali A. **"Investigation of real-time locating systems technologies in the healthcare field: A review study."** Journal of Health Administration 22, no. 1 (2019): 26-39.
37. Rezayi S, Safaei Ali A., Mohammadzadeh N, **"Requirement Specification and Modeling a Wearable Smart Blanket System for Monitoring Patients in Ambulance"**, Journal of Medical Signals & Sensors, 2019.
38. Mozghan Tanhapour and Ali Asghar Safaei, **"Specification of a social network-based PHR"**, International Journal of Electronic Healthcare, 2019, 10(4), pp.249-274.
39. GholamHoseini L., Sadooghi F, Safaei Ali A., **"Hospital Real-Time Location System: A Practical Approach in Healthcare."** Iranian journal of Public Health, 2019
40. Safaei, Ali A., and Safaei Sayyed Saeid. **"Requirement specification of an ontology-based semantic recommender system for medical prescriptions and drug interaction detection."** International Journal of Electronic Healthcare 11, no. 1 (2019): 1-24.
41. Rezayi, S, and Safaei Ali A. **"Wearable smart blanket system model for monitoring the vital signs of patients in ambulance."** Researcher Bulletin of Medical Sciences 1, no. 24 (2019): e24-e24.
42. Feizmanesh F, Safaei Ali A. **"Determining the Risk Factors and Presenting a Prognostic Model for Pulmonary Embolism in Hospitalized Patients using Bayesian Networks"**. Iranian Journal of Epidemiology. 2018; 14 (3) :272-282
43. Tanhapour M, Safaei Ali A. **"Requirements Specification of Creating a Hybrid Model of PHR Based on Social Networking"**. Journal of Payavard Salamat . 2018; 11 (6) :618-631
44. Feizmanesh F, Safaei Ali A., Gohari Moghadam K. **"Determination of risk factors for predicting pulmonary embolism using Bayesian networks."** Koomesh. 2018; 20 (4) :657-666
45. Delaram Z, Safaei Ali A., Atashi A. **"Conceptual Modeling and Evaluation of Tele-Psychotherapy System based on Self-inventory for Patients with Depression."** Journal of Health and Biomedical Informatics. 2018; 5 (1) :1-11

46. Feizmanesh F, Safaei Ali A. **"Review of the Approaches and Techniques of Text Mining in Clinical Documentation."** Journal of Health and Biomedical Informatics. 2018; 5 (2) :314-324
47. Rezayi S, Safaei Ali A., Mohammadzadeh N. **"The Usages of Body Area Sensor Networks: Review on References."** Journal of Payavard Salamat. 2018; 11 (6) :694-703
48. Rezayi Sorayya, Safaei Ali A., **"A Narrative Review of the Taxonomy of Wearable Monitoring Technologies in Medical Applications"**, Health Information Management, (2017): 37-43
49. Tanhapour M, Safaei Ali A. **"Designing and Modeling Personal Health Record Systems based on Health Social Network"** Journal of Health and Biomedical Informatics. 2017; 4 (3) :168-180
50. Aliabadian, Mojtaba , Safaei Ali A. **"Improving the Efficiency of Cloud Computing Services Using Cuckoo Search and Bee Colony Algorithms."** Journal of Global Pharma Technology 8.12 (2017).
51. Mosaferi M., Safaei Ali A. **"Providing a Dynamic Technique for Answering Ad-hoc Continuous Aggregate Queries."** Journal of Signal and Data Processing. 2017; 14 (3) :3-22
52. Safaei, Ali A. **"Real-time processing of streaming big data."** Real-Time Systems 53.1 (2017): 1-44.
53. Safaei, Ali A., Mehdi Mosaferi, and Fatemeh Abdi. **"Answering ad-hoc continuous aggregate queries over data streams using Dynamic Prefix Aggregate Tree."** Intelligent Data Analysis 20.6 (2016): 1351-1384.
54. Habibi Asl, Saeide, and Safaei Ali A. **"Medical image retrieval approaches, methods and systems: A systematic review."** Pajoohandeh Journal 21.2 (2016): 61-73. (in Persian)
55. Haratian N., Safaei Ali A., **"Cloud services discovery through Ontology Evolution in Persian language"**, Soft Computing Journal, 4 (2), 2016. (in Persian)
56. Rezaei S, Safaei Ali A. **"A Systematic Review of Wearable Technologies and their Applications in Health."** Journal of Health and Biomedical Informatics. 2016; 3 (3) :233-242
57. Shahmoradi M., Safaei Ali A., H. Tajrishi, E. Nazari, Z. Delaram, Z. Zarei, N. Zeinali, **"Common Applications of Social Networking in Medicine and Health"**, Journal of Health Information Management, 13 (3), 2016.
58. Naseh E., Safaei Ali A., **" A Gene Structure Prediction Model using Bayesian Algorithm and the Nearest Neighbor"**, International Journal of Computer Applications Technology and Research 5 (8), 509 - 515, 2016.
59. Naseh E., Safaei Ali A., **"The Presentation of a Genetic Algorithm to Solve Steiner Tree"**, International Journal of Computer Applications Technology and Research 5 (8), 516 - 518, 2016.
60. Tanhapour, Mozghan, and Safaei Ali A. **"Specification of requirements for health socialnetwork as Personal Health Record (PHR) system."** Tehran University Medical Journal TUMS Publications 73.6 (2015): 431-441.
61. Shahmoradi, Mehrnoosh, Safaei Ali A. **"The role of social networks in healthcare: applications and limitations."** Journal of Health and Biomedical Informatics 2.2 (2015): 124-128.
62. Abdi Fatemeh, Safaei Ali A., **"Mining Frequent Patterns in Uncertain and Relational Data Streams using the Landmark Windows"**, Journal of Advances in Computer Engineering and Technology, 1(4) 2015.

63. Setareh, Sougand, Safaei Ali A., and Najafi Farid. **"Using machine learning techniques to differentiate acute coronary syndrome."** Journal of Kermanshah University of Medical Sciences 18.11 (2015): 631-639.
64. Abdi F., Safaei Ali A., **"Processing Ad-hoc Continuous Aggregate queries"**, Indian J. Sci. Res 7 (1), 1001-1010 (2014).
65. Safaei A. A., M. S. Haghjoo, **"Parallelism of Data Streams"**, Journal on Computer Science and Engineering (JCSE), 11(2), 11-29, (2013).
66. Tajalli-Pour B., Safaei Ali A., **"Syntax and Semantic Analysis of SQL-Injection Attacks"**, Electronic and Cyber Defense Journal, 1(2): 53-69, (2013). (in Persian)
67. Safaei A. A., Sharifrazavian A., Sharifi M., Haghjoo M. S., **"Dynamic Routing of Data Stream Tuples among Parallel Query Plan Running on Multi-core Processors"**, Journal of Distributed and Parallel Databases, 30(2): 145-176, (2012) (DOI: 10.1007/s10619-012-7090-6).
68. Safaei A. A., Haghjoo M. S., **"Dispatching of Stream Operators in Parallel Execution of Continuous Queries"**, Journal of Supercomputing, Volume 61, Number 3 (2012), 619-641, DOI: 10.1007/s11227-011-0621-5
69. Safaei Ali A., Alemi M., Haghjoo Mostafa S., Mohammadi Sh., **"Hybrid Multiprocessor Real- Time Scheduling Approach"**, International Journal of Computer Science Issues, Vol. 8, Issue 2, March 2011.
70. Mohammadi Sh., Safaei A. A., Abdi F. and Haghjoo M. S., **"Adaptive Data Stream Management System Using Learning Automata"**, Advanced Computing: An International Journal (ACIJ), Vol.2, No.5, September 2011.
71. Safaei Ali A., Haghjoo M. S., **"Parallel processing of continuous queries over data streams"**, Journal of Distributed and Parallel Databases, (28)2: 93-118, (2010) (DOI: 10.1007/s10619- 010-7066-3).
72. Safaei Ali A., Haghjoo M. S., **"Using Finite State Machines in Processing Continuous queries"**, Journal of International Review on Computers and Software (IRECOS), 4(5): 551-556, (2009).

BOOK CHAPTER:

1. Safaei Ali A., Haghjoo M. S., Abdi F., **"PFGN: A Hybrid Multiprocessor Real-Time Scheduling Algorithm for Data Stream Management Systems"**, International Conference on Digital Information and Communication Technology and its Applications (CCIS Springer Book Series), 180-192, (2011).
2. Alemi M., Safaei Ali A., Haghjoo M. S., Abdi F., **"PDMRTS: Multiprocessor Real-Time Scheduling Considering Process Distribution in Data Stream Management System"**, International Conference on Digital Information and Communication Technology and its Applications (CCIS Springer Book Series), 166-179, (2011).
3. Safaei Ali A., Haghjoo Mostafa S., Ghalambor M., **"GMTM: A Grid Transaction Management Model"**, Advances in Computer Science and Engineering (CCIS Springer Book Series), 2009, Volume 6, Part 2, 786-789, DOI: 10.1007/978-3-540-89985-3_103

INTERNATIONAL CONFERENCE PAPERS:

1. Kazemzadeh F., Karian A., Safaei Ali A. and Mirzarezaee M., **"Intelligent Filtering of Graph Shells in the Problem of Influence Maximization Based on the Independent**

- Cascade Model**," 2021 7th International Conference on Signal Processing and Intelligent Systems (ICSPIS), 2021, pp. 1-5, doi: 10.1109/ICSPIS54653.2021.9729376.
2. Gholamhosseini, Leila, Sadoughi Farahnaz, Ahmadi Hossein, and Safaei Ali A. "**Health Internet of Things: Strengths, Weakness, Opportunity, and Threats.**" In 2019 5th International Conference on Web Research (ICWR), pp. 287-296. IEEE, 2019.
 3. Shirin Jabbari, Safaei Ali A., "**A new method for data security in cloud computing using and Particle Swarm Optimization**", 2nd International Conference & 3rd National Conference on New Technologies Application in Engineering, Iran, Feb. 2016.
 4. Shokouh M, Safaei Ali A. "**Knowledge Extraction form databases**", in proc. of Int. conf. on computer engineering and information technology, Tehran, Iran, 2016. (in Persian)
 5. Marzoogi F, Safaei Ali A. "**A Breast Cancer Diagnosis Model based on Artificial Neural Networks**", in proc. of Int. conf. on computer engineering and information technology, Tehran, Iran, 2016. (in Persian)
 6. Shokouh M, Safaei Ali A. "**Data Mining, Statistics and Machine Learning**", in proc. of Int. conf. on computer engineering and information technology, Tehran, Iran, 2016. (in Persian)
 7. Saydali, Sajad, Parvin Hamid, and Safaei Ali A. "**Classifier Ensemble by Semi-supervised Learning: Local Aggregation Methodology.**" International Doctoral Workshop on Mathematical and Engineering Methods in Computer Science. Springer, Cham, 2015.
 8. Setareh S., Safaei Ali A., Najafi F., "**Using machine learning techniques to differentiate Myocardial infarction and Unstable Angina**", in proc. of the International Conference on Information and Communication Technology, Iran, 2015. (in Persian)
 9. Azad M., Safaei Ali A., "**A graph-based data model for HIV diseases efficient for epidemic discovery services**", in proc. of 2nd congress of electrical engineering, computer science and Information technology, Tehran, Iran, 2015. (in Persian)
 10. Safaei Ali A., Zahiri S. A., "**Proper Data Model for Big Data**", in proc. of the International Conference on Big Data, Iran, 2015. (in Persian)
 11. Mohammadi Sh., Safaei A. A., Hagihoo M. S., Abdi F., "**Effective Parameters on Response Time of Data Stream Management Systems**", in proc of the 10th International Conference on Information and Knowledge Engineering, USA, 2011.
 12. Alemi M., Haghjoo M. S., Safaei Ali A., "**Multiprocessor Real-time Scheduling for RTDSMSs**", in proc. of 3rd CEIT conf., Hamedan, Iran, 2011. (in Persian)
 13. Safaei Ali A., Haghjoo M., Abdi F., "**On-line Data Stream Query Processing Using Finite State Automata**", in proc. of 4th International Conference on Cooperation and Promotion of Information Resources in Science and Technology, China, 2009.
 14. Ghalambor M., Safaei Ali A., Abdollahi M., "**DSMS Scheduling Regarding Complex QoS Metrics**", in proc. of 7th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA-2009), Morocco, 2009.
 15. Safaei Ali A., Haghjoo M. S., Abdi F., "**Semantic Cache Schema for Query Processing in Mobile Databases**", in proc. of IEEE ICDIM'08, London, UK, 2008.
 16. Safaei Ali A., Kamali M., Haghjoo M. S., Izadi K., "**Caching Intermediate Results for Multiple Query Optimization**", in proc. of 5th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA-2007), Jordan, 2007.

17. Eskandari E., Safaei Ali A., Haghjoo M., "**Memo, a New Approach to Mobile Data Management**", in proc. of IEEE International Conference on Information & Communication Technologies: from Theory to Applications (ICTTA'06), Syria, 2006.
18. aghmae M.H. Y, Safaei Ali A., "**Quality-Of-Service Routing in MPLS Networks Using Bandwidth and Delay Constraints**", in proc. of HetNets'04, West Yorkshire, U.K., 2004.
19. A. A. Safaei, "Design and Construction of Management Information Bases (MIB) for DiffServ MPLS Networks", in proc. of WISICT'04, Mexico, Win2004.
20. Yaghmae M.H., Safaei Ali A., "**Design of Management Information Base (MIB) for MPLS Routers with Differentiated-Services Capabilities**", in proc. of 11th Iranian Conference on Electrical Engineering (ICEE2003), Iran, 2003. (in Persian)
21. Safaei Ali A., "**MPLS Networks Supporting Differentiated Services**", in proc. of National Computer Conference (NCC2002), Mashhad, Iran, Fall 2002. (in Persian)

Submitted publications with peer review process:

1. ForouzeshFar Parsa, **Safaei A. A.***, Tavassoli Afagh, Hashemi Kamangar S.S., Kaviani Hanieh, Wu Jonathan, and Haghi Sahebeh "Dental Caries Type and Severity Detection: a Comparative Study of YOLOv8 and YOLOv10", submitted to the Journal of Esthetic and Restorative Dentistry, 2025.
2. Nezamdoust M., **Safaei A.A.***, Asosheh Abbas, Alizadeh Mousa, "Security and Privacy Mechanisms in IoT Based Telehealth Systems: A Systematic Review", submitted to the journal of international journal of Intelligent Systems
3. Fouladi Saman, **Safaei Ali A.***, Aayari D., Bell. D., "Parkinson Disease Diagnosis Using Deep Learning vs Machin Learning", Submitted to journal of Neurodevelopmental Disorders.
4. Almaspoor, M.H., **Safaei, A. A.***, Salajegheh, A., Minaei-Bidgoli, B., "Reduction of support vector machine training samples using independent linear vectors subset", submitted to the journal of Computational Intelligence
5. Almaspoor, M.H., **Safaei, A.A.***, Salajegheh, A., Minaei-Bidgoli, B., "Support Vector Machines in Big Data Classification: A Systematic Literature Review", Submitted to International Journal of Pattern Recognition and Artificial Intelligence.
6. Peyvandi, F., Mohammadzadeh, M., **Safaei, A. A.***, Adimi, P., "Sleep Disorders Diagnosis and Sleep Stage Classification using Machine Learning and Deep Learning: A Systematic Review", submitted to the Journal of Sleep and Breathing.
7. Dajer, S., **Safaei A.A.***, Nezamdoust, M., "Data Anonymization for Consumer IoT-based Smart Home Healthcare Monitoring System", submitted to the Journal of Transactions on Emerging Telecommunication Technologies.
8. Sherafatmandjoo, H., **Safaei, A.A.***, Ghaderi, F., Allameh, F., "Prostate Cancer Diagnosis Based on Biopsy or MRI Using Deep Learning: A Systematic Review", Submitted to the Journal of Computer Methods and Programs in Biomedicine.
9. MirHoseini M., **Safaei A.A.***, "Exploring GAN-Based Approaches in Medical Imaging: A Systematic Review", submitted to the Journal of Medical & Biological Eng & Computing.

10. ReshadFar N., **Safaei A.A.***, “Blood Cancer Diagnosis using Deep Learning A Systematic Literature Review” submitted to the Journal of Critical Reviews in Oncology/Hematology

Tutorial and Workshops:

- o **"Quality of Service on the Internet"**, In the 8th Annual CSI Computer Conference (CSICC2003), Ferdowsi University of Mashhad, Mashhad, Iran (February 2003).

Grants and Funds:

- o **“Development of Mobile Application for Prostate Cancer Diagnosis based on Biopsy and MRI using Deep Learning”** joint sponsorship by Iran National Science Foundation (INSF) and National Institute for Medical Research Development (NIMAD), 2022 (Role: PI)
- o **“Observatory of pervasive and effective virtual medical education for situations similar to the global quarantine of Covid-19”** For National Agency for Research in Medical Educations (NASR), 2022 (Role: PI)
- o **"Design and Implementation of a Framework for Development of Virtual/Augmented Reality- Based Medical Education Applications"** For National Agency for Research in Medical Educations (NASR), 2018 (Role: PI)
- o **“Integration of national HPC clusters”** For MSRT, 2016
- o **“Desktop DBMS development”** for ISIRAN company, 2013 (Role: Project manager)
- o **“DBMS Security Architecture Design”** for ISIRAN company, 2012 (Role: PI)
- o **“National DBMS Specification and Conceptual Architecture Design”** for Ministry of Science, Research and Technology and ISIRAN company, 2011 (Role: Project manager)
- o **“Evaluating insurance companies in information technology employment”** for Central Insurance of Iran, 2010 (Role: Project manager)
- o **“Upgrading IRIMO’s Information Systems”** for Iran Meteorological Organization, 2009

Member of Editorial Board

- o Journal of Artificial Intelligence and Big Data
- o Journal of Data Science and Intelligent Systems

Reviewer of Journals

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| o Scientific Reports | o BMC Medical Informatics and Decision Making |
| o Neurocomputing | o Sensors |
| o J of Big Data | o Computer Networks |
| o npj Precision Oncology | o Information processing and management |
| o Supercomputing | o Computers in Biology and Medicine |
| o Cloud Computing | o IEEE Access |
| o Cluster Computing | o IEEE Transaction on Systems, Man and Cybernetics |
| o Machine Learning | o IEEE Transactions on Consumer Electronics |
| o Applied Clinical Informatics | |
| o Artificial Intelligence Review | |
| o PLOS ONE | |

- IEEE Internet of Things
- Health Informatics Journal
- BMJ Open

Conference Steering Committees

- Scientific Chair: 2nd National Congress on Medical Informatics, 2018
- and 8th Conference on Electronic Health and its Applications in Iran, 2018
- PC member: ICCKE, 2014
- Scientific Committee member: 25th Electrical Engineering Conference of Iran, 2017
- Scientific Committee member: 7th Conference on Bioinformatics, Iran 2018
- PC member: 26th International conference of Computer Association of Iran, 2020

Member of National or International Academic Associations

- Iranian Association of Medical Informatics
- Iranian Association of C⁴I

Technical Skills and experiences

- Data Science

- Python (Libraries: Pytorch, Keras, Tensorflow, Pandas, Numpy, Opencv, Matplotlib, etc.)
- R framework (for data mining and statistical analysis)
- SQL (RDBMSs: MS SQL Server, SQLite) and NoSQL data stores (MongoDB, Redis, Neo4j)
- MS Excel and Tableau (for data engineering and visualization)
- Spark and Hadoop platforms (for data intensive computing using the map-Reduce paradigm)

- Data Architecture

- Data Platform Architectural Design
 - BIDS (Brain Imaging Data Structure)
 - FAIR-compatible
 - Mesh-based (domain driven) architecture based on Data warehouse, data mart, data lake and data lakehouse
 - Medallion quality model for data architecture

- LLM and AI Chatbots

- AI Chatbot for Cognitive Health/Disorder Assessment
 - Functionalities:
 - LLM-based users chat in the context of cognitive disorders
 - Cognitive health assessment according to the standard questionnaires
 - Deep Learning-based diagnosis of cognitive disorders (using MRI images, EEG signals, etc.)

- Healthcare mobile app/cloud-based services development

- Mobile application or web-based services of the constructed data-driven decision models: Prostate Cancer diagnosis mobile app, Dental Screening app, etc.
- Development of information system software using NoSQL (e.g., eCRF for the study of COVID-19 vaccines using the Document-based data model and the MongoDB)

- DevOps (Cloud platform: MS Azure - Containerization: Kubernetes, OpenShift - CI/CD: GitLab, Bash)

- **Virtual / Augmented Reality**

- Familiar with the *Unity* and *Unreal* VR engines, *ARKit*
- Development of VR-based medical education applications for training procedures (e.g., LP, Abdominal synthesis, etc) using the Unity and Unreal engines
- Development of AR-based Rehabilitation applications (e.g., Parkinson rehabilitation package using Xbox Kinect)
- *MedUnity* VR Dev Framework: development of medical version of the Unity by including libraries of 3D models of organisms and medical devices and instruments.

- **IoT**

- at *RahNama* startup co.: development of a cloud-based integrated outdoor-indoor Positioning and Navigation System (IPS), based on the Anyplace open source software, revising both of the backend and frontend sides to improve the accuracy (< 2 m) and efficiency (< 10 s) of positioning and providing various utilities for different editions for different settings (i.e., shopping mall, hospital (RTLS), airport, exhibition)