Review Article *Open Access*

Journal of Biomedical Advancement Scientific Research

ISSN: 3069-0854

DOI: *doi.org/10.63721/25JBASR0112*

Bridging the Gap: AI as a Collaborative Tool between Clinicians and Researchers

Kevin Thamson[1] and Omid Panahi[2*]

[1]University of the Nevada, Reno, Department of Medicine, Virginia, USA
[2]University of the People, Department of healthcare Management, California, USA

Citation: Kevin Thamson, Omid Panahi (2025) Bridging the Gap: AI as a Collaborative Tool Between Clinicians and Researchers. J. of Bio Adv Sci Research, 1(2):1-08. WMJ/JBASR-112

Abstract

The synergy between clinical practice and biomedical research is critical for advancing patient care, yet a significant gap often exists between these two domains. This paper explores the transformative potential of artificial intelligence (AI) as a collaborative tool to bridge this divide. We examine how AI technologies, including machine learning, natural language processing (NLP), and computer vision, can facilitate a more seamless exchange of data and insights. AI can assist clinicians by providing data-driven decision support, automating routine tasks, and generating real-time insights from patient data. Simultaneously, it can empower researchers with access to vast, de-identified datasets from electronic health records, enabling the discovery of novel disease patterns, biomarkers, and treatment pathways that are directly relevant to clinical needs. We discuss several case studies where AI-powered platforms have successfully integrated clinical workflows with research protocols, leading to more rapid and impactful scientific discoveries. Furthermore, we address the ethical considerations, challenges related to data privacy, and the need for interoperable systems to fully realize this collaborative potential. Ultimately, this paper posits that AI is not merely a tool for automation but a vital catalyst for a new era of collaborative, data-driven medicine, fostering a continuous feedback loop between the clinic and the lab for the betterment of patient outcomes

***Corresponding author:** Dr. Omid Panahi, University of the Nevada, Reno, Department of Medicine, Virginia, USA.

Submitted: 13.08.2025 **Accepted:** 18.08.2025 **Published:** 25.08.2025

Keywords: Artificial Intelligence, Biomedical Research, Clinical Collaboration, Machine Learning, Natural Language Processing, Healthcare Technology

Introduction

The modern medical landscape is defined by an ever-accelerating pace of data generation. From high-throughput genomic sequencing and real-time sensor data to the vast repositories of electronic health records (EHRs), the sheer volume and complexity of information are unprecedented. While this data deluge holds immense promise for personalized medicine and groundbreaking discoveries, it also creates a significant challenge: the disconnect between the clinical front lines and the research laboratory [1-23]. Clinicians, overwhelmed by patient care, often lack the time and tools to systematically analyze the data they generate, while researchers, in turn, can struggle to access and interpret the real-world, messy clinical data needed to ensure their findings are directly translatable to patient outcomes. This gap between clinical practice and biomedical research is a major barrier to innovation, hindering the translation of scientific discoveries into effective patient care.

Historically, this divide has been addressed through manual, resource-intensive processes. Researchers might spend years curating datasets, and clinicians often rely on literature reviews and continuing education to stay abreast of new findings [24-43]. This linear and often slow-moving exchange is no longer sufficient in an era where data is dynamic and scientific knowledge doubles at an astonishing rate. We need a more dynamic, integrated framework a system that can foster a continuous feedback loop between the clinic and the lab. This paper argues that artificial intelligence (AI) offers the most promising solution to this persistent challenge. By acting as an intelligent intermediary, AI can facilitate a seamless and symbiotic relationship, transforming what was once a chasm into a collaborative bridge.

The Current State and the Promise of AI

The application of AI in medicine is not new, but its recent maturation, particularly in areas like machine learning and deep learning, has unlocked unprecedented capabilities. For clinicians, AI can serve as a powerful cognitive aid. Imagine a system that can analyze a patient's entire medical history, lab results, and genetic profile to flag potential drug-drug interactions or predict the likelihood of disease progression all in real-time. This is not science fiction; these are systems being developed today. Natural language processing (NLP), for example, can sift through unstructured notes in EHRs to identify key clinical patterns that might be missed in a busy clinic. Computer vision algorithms are becoming increasingly adept at analyzing medical images from CT scans to pathology slides with a level of speed and accuracy that can augment human expertise and reduce diagnostic errors [44-54].

On the research side, the benefits of AI are equally transformative. Access to large, de-identified clinical datasets is the lifeblood of translational research, but obtaining and preparing this data is a notoriously difficult process. AI platforms can automate much of this work, from data normalization and cleaning to the identification of relevant patient cohorts. This capability accelerates the pace of discovery, allowing researchers to rapidly test hypotheses, identify novel biomarkers, and validate new therapeutic targets. For example, machine learning models can analyze vast genomic and proteomic datasets to uncover complex disease pathways that would be impossible for a human to discern. The real power, however, lies in connecting these two worlds. When a researcher's algorithm discovers a new predictive model, it can be immediately deployed in a clinical setting for real-world validation. The clinical feedback how well the model performs in practice is then fed back to the researchers to refine and improve the algorithm. This creates a virtuous cycle of discovery and implementation that accelerates scientific progress and brings its benefits to patients faster than ever before [55-65].

Challenges

Challenges to using AI as a collaborative tool between clinicians and researchers are significant and can be categorized into four main areas: technical and data challenges, ethical and regulatory hurdles, organizational and human factors, and issues with trust and transparency.

Technical and Data Challenges

A primary challenge is the quality and accessibility of data. AI models need vast, high-quality, and diverse datasets to be effective. However, clinical data is often messy, unstructured, and siloed across different systems.

- **Interoperability:** Different healthcare systems, from electronic health records (EHRs) to lab systems, use various standards and formats, making it difficult to share data seamlessly. This creates "data silos" that hinder the development and validation of AI models.
- **Data Quality and Bias:** The data used to train AI models can contain inherent biases (e.g., underrepresenting certain patient demographics), leading to algorithms that are less accurate or even discriminatory toward specific populations. Inaccurate or incomplete data can also lead to flawed model outputs [66-72].
- **Unstructured Data:** Much of the valuable information in clinical practice is in the form of physician notes, which are unstructured text. While natural language processing (NLP) is a key tool, accurately extracting and standardizing this information remains a complex challenge.

Ethical and Regulatory Hurdles

The use of AI in healthcare raises critical ethical questions that must be addressed for its responsible adoption.

- **Data Privacy and Security:** Patient data is highly sensitive. The use of large datasets for AI development and research raises serious concerns about privacy and the risk of data breaches. Anonymizing data is a key step, but the risk of re-identification is a real and growing concern.
- **Accountability and Liability:** When an AI system makes an error that leads to a misdiagnosis or a poor patient outcome, who is responsible? Is it the developer of the algorithm, the hospital, or the clinician who used the tool? This lack of a clear legal framework is a significant barrier to widespread clinical adoption.
- **Bias and Fairness:** If an AI model is trained on data from a non-diverse population, its recommendations may be less effective for other groups, potentially worsening existing healthcare disparities. Ensuring fairness and equity in AI-driven healthcare is a major ethical responsibility [73-83].

Organizational and Human Factors

The successful integration of AI requires more than just good technology; it requires a change in culture and workflow.

- **Lack of Collaboration:** There's often a significant gap in understanding between AI researchers and clinicians. Researchers may struggle to understand the nuances of clinical practice, while clinicians may not fully grasp the technical limitations or assumptions of an AI model. This "cognitive mismatch" can make collaboration difficult.
- **Workflow Integration:** AI tools must be seamlessly integrated into existing clinical workflows without adding to the already heavy workload of healthcare professionals. Tools that require significant extra steps or data entry are unlikely to be adopted.
- **Clinician Skepticism:** Many clinicians are skeptical of AI, especially "black box" models that don't explain their reasoning. They may be concerned about loss of professional autonomy or the reliability of AI recommendations.

Trust and Transparency

For clinicians and patients to trust AI, the technology must be transparent and its decision-making process must be understandable.

- **The "Black Box" Problem:** Many advanced AI models, particularly deep learning systems, are complex and don't provide a clear explanation for their outputs. This lack of transparency makes it difficult for clinicians to validate the AI's recommendations, which is crucial for building trust and ensuring patient safety.
- **Explainable AI (XAI):** The field of XAI is working to address this by creating models that can provide human-readable explanations. However, developing XAI tools that are both accurate and clinically useful is an ongoing research challenge [84-90].

Future Works

Building on the challenges and current applications of AI in healthcare, future works should focus on several key areas to fully realize its potential as a collaborative tool between clinicians and researchers.

Developing Transparent and Explainable AI Models

A major focus must be on creating explainable AI (XAI) systems. Clinicians need to understand why an AI model is making a certain recommendation before they can trust and adopt it. Future research should move beyond "black box" models to develop algorithms that provide clear, human-readable rationales. This could involve generating natural language summaries of the data used for a decision or highlighting the most influential features in a medical image. This will not only build confidence but also facilitate a more meaningful dialogue between researchers and clinicians about a model's strengths and limitations.

Improving Data Interoperability and Curation

The ongoing issue of data silos and disparate systems must be addressed. Future work should concentrate on developing standardized frameworks and technologies that allow for seamless, secure data sharing across different healthcare institutions. This includes:

- **Federated Learning:** This approach allows AI models to be trained on data from multiple institutions without the data ever leaving its source, addressing privacy concerns.
- **Automated Data Curation:** Research is needed to create AI tools that can automatically clean, normalize, and de-identify clinical data, significantly reducing the manual effort required for research and enabling more efficient model development.
- **Multimodal AI:** Future models should be able to integrate and learn from various data types simultaneously, including EHR text, medical images, genomics, and wearable device data, creating a more holistic view of the patient.

Enhancing Workflow Integration and User Experience

For AI to be truly collaborative, it must be designed with the end-user in mind. Future research should prioritize:

- **User-Centered Design:** Involving clinicians in the design and development of AI tools from the very beginning. This ensures the tools address genuine clinical needs and fit seamlessly into existing workflows.
- **AI Assistants and Ambient Intelligence:** Instead of requiring a clinician to manually interact with an AI, future systems could be "ambient," passively listening to a clinical conversation (with patient consent) to automatically generate notes or flag important information, thereby reducing administrative burden and cognitive load.
- **Continuous Learning and Adaptation:** AI models should be able to learn and adapt in real-time as new data becomes available in the clinical setting, rather than remaining static. This would allow the model to stay relevant and accurate as clinical practices evolve.

Establishing Robust Governance and Ethical Frameworks

As AI becomes more integrated into healthcare, the need for clear guidelines is paramount. Future work should focus on:

- **Regulatory Sandboxes:** Creating environments where new AI tools can be safely tested and evaluated in real-world settings with appropriate oversight.
- **Accountability Models:** Developing clear frameworks for liability and accountability when AI tools are used for clinical decision-making.
- **Ethical Oversight:** Continued research on how to detect and mitigate bias in AI models, ensuring that these technologies promote health equity rather than exacerbate disparities. This includes establishing diverse, representative datasets for training.

Conclusion

The chasm between clinical practice and biomedical research has long been a significant impediment to the rapid translation of scientific discoveries into improved patient care. This paper has argued that artificial intelligence (AI) is not merely an incremental technology but a foundational tool with the potential to fundamentally reshape this relationship. By serving as an intelligent intermediary, AI can facilitate a dynamic, collaborative ecosystem where data flows seamlessly between the clinic and the lab, creating a virtuous cycle of discovery, validation, and implementation.

AI's ability to analyze vast, complex datasets, from EHRs to genomic information, empowers both clinicians and researchers. It provides clinicians with real-time, data-driven insights that augment their diagnostic and decision-making capabilities, freeing them to focus on the human aspects of patient care. Simultaneously, AI gives researchers a window into real-world clinical data, enabling them to develop more relevant and impactful solutions. The feedback loop created by this collaboration accelerates the pace of translational medicine, ensuring that scientific advancements are not confined to academic journals but are rapidly put to work for the benefit of patients.

However, the path forward is not without its challenges. The successful integration of AI requires overcoming significant hurdles, including technical issues of data interoperability and quality, as well as critical ethical and regulatory considerations related to data privacy, algorithmic bias, and accountability. The "black box" nature of many AI models must be addressed through the development of transparent and explainable AI. Furthermore, fostering a culture of trust and collaboration among clinicians, researchers, and AI developers is essential.

References

1. Panahi DU, HOC A (2025) Networks: Applications. Challenges, Future Directions, Scholars' Press, ISBN 978-973.
2. Omid Panahi (2024) Teledentistry: Expanding Access to Oral Healthcare. Journal of Dental Science Research Reviews & Reports. SRC/JDSR-203.
3. Omid P, Reza S (2024) How Artificial Intelligence and Biotechnology are Transforming Dentistry. Adv Biotech & Micro 18: 555981.
4. Omid Panahi (2024) "AI: A New Frontier in Oral and Maxillofacial Surgery". Acta Scientific Dental Sciences 6: 40-42.
5. Omid Panahi, Reza Safaralizadeh (2024) AI and Dental Tissue Engineering: A Potential Powerhouse for Regeneration. Mod Res Dent 8.
6. Omid Panahi (2024) Artificial Intelligence: A New Frontier in Periodontology. Mod Res Dent 8
7. Omid P (2024) Empowering Dental Public Health: Leveraging Artificial Intelligence for Improved Oral Healthcare Access and Outcomes. JOJ Pub Health 9: 555754.
8. Omid P (2024) Artificial Intelligence in Oral Implantology, Its Applications, Impact and Challenges. Adv Dent & Oral Health 17: 555966.
9. Omid Panahi (2024) "AI Ushering in a New Era of Digital Dental-Medicine". Acta Scientific Medical Sciences 8.8: 131-134.
10. Panahi O, Zeinaldin M (2024) AI-Assisted Detection of Oral Cancer: A Comparative Analysis. Austin J Pathol Lab Med 10: 1037.
11. Panahi O (2024) AI in Surgical Robotics: Case Studies. Austin J Clin Case Rep. 2024; 11: 1342.
12. Panahi O, Zeinaldin M (2024) Digital Dentistry: Revolutionizing Dental Care. J Dent App 10:1121.
13. Panahi O (2025) Wearable Sensors and Personalized Sustainability: Monitoring Health and Environmental Exposures in Real-Time. European Journal of Innovative Studies and Sustainability, 1: 1-19.
14. Omid Panahi, Sevil Farrokh (2024) USAG-1-Based Therapies: A Paradigm Shift in Dental Medicine. Int J Nurs Health Care 1: 1-4.
15. Omid Panahi, Sevil Farrokh (2024) Can AI Heal Us? The Promise of AI-Driven Tissue Engineering. Int J Nurs Health Care 1: 1-4.
16. O Panahi (2025) Algorithmic Medicine, Journal of Medical Discoveries 2.
17. O Panahi (2025) Deep Learning in Diagnostics, Journal of Medical Discoveries 2.
18. Omid P, Soren F (2025) The Digital Double: Data Privacy, Security, and Consent in AI Implants West J Dent Sci 2: 108.
19. Panahi O (2023) Ketenci Çay F. NanoTechnology. Regenerative Medicine and Tissue Bio-Engineering. Acta Sci Dent Sci 7: 118-122.
20. Panahi O (2025) Smart Robotics for Personalized Dental Implant Solutions. Dental 7.
21. Panahi P, Bayılmış C, Çavuşoğlu U, Kaçar S (2021) Performance evaluation of lightweight encryption algorithms for IoT-based applications. Arabian Journal for Science and Engineering 46: 4015-4037.
22. Panahi U, Bayılmış C (2023) Enabling secure data transmission for wireless sensor networks based IoT applications. Ain Shams Engineering Journal 14: 101866.
23. Omid Panahi, and Uras Panahi (2024) AI-Powered IoT: Transforming Diagnostics and Treatment Planning in Oral Implantology. J AdvArtifIntell Mach Learn 1: 1-4.
24. Panahi P, Dehghan M (2008) Multipath Video Transmission Over Ad Hoc Networks Using

Layer Coding And Video Caches. In ICEE2008, 16th Iranian Conference On Electrical Engineering 50-55.
25. Bakikoyuncu, pejmanpanahi (2014) Kalman Filtering of Link Quality Indicator Values for Position Detection by Using WSNS, Int'l Journal of Computing, Communications & Instrumentation Engg. (IJCCIE) 1.
26. Pejman Panahi and Cneyt Baylm (2017) "Car indoor gas detection system", International Conference on Computer Science and Engineering 2017.
27. Panahi P (2009) Providing consistent global sharing service over VANET using new plan. In 2009 14th International CSI Computer Conference. IEEE 213-218.
28. Panahi P (2008) Multipath local error management technique over ad hoc networks. In 2008 International Conference on Automated Solutions for Cross Media Content and Multi-Channel Distribution IEEE 187-194.
29. Dr Uras Panahi, Redes AD HOC: Aplicações, Desafios, Direcções Futuras, Edições Nosso Conhecimento, ISBN: 978-620-8-72962-2.
30. Dr Uras Panahi, Sieci AD HOC: Zastosowania, wyzwania, przyszłe kierunki, Wydawnictwo Nasza Wiedza, ISBN: 978-620-8-72967-7.
31. Dr Uras Panahi, Reti AD HOC: Applicazioni, sfide e direzioni future, Edizioni Sapienza, ISBN: 978-620-8-72965-3.
32. Dr Uras Panahi, Redes AD HOC: Aplicaciones, retos y orientaciones futuras, Ediciones Nuestro Conocimiento, ISBN: 978-620-8-72966-0.
33. Dr Uras Panahi, Réseaux AD HOC: Applications, défis et orientations futures, Editions Notre Savoir, ISBN: 978-620-8-72964-6.
34. Dr Uras Panahi, AD HOC-Netze: Anwendungen, Herausforderungen, zukünftige Wege, Verlag Unser Wissen, ISBN: 978-620-8-72963-9.
35. Dr Omid Panahi, Dr Faezeh Esmaili, Dr Sasan Kargarnezhad (2024) Künstliche Intelligenz in der Zahnmedizin, Unser wissen Publishing. ISBN: 978-620-3-6722696.
36. Dr Omid Panahi, Dr Faezeh Esmaili, Dr Sasan Kargarnezhad (2024) Artificial Intelligence in Dentistry, Scholars Press Publishing. ISBN: 978-620-6772118.
37. Dr Omid Panahi, Dr Faezeh Esmaili, Dr Sasan Kargarnezhad (2024), Inteligencia artificial enodontología, NUESTRO CONOC, MENTO Publishing. ISBN: 978-620-6622764.
38. Dr Omid Panahi, Dr Faezeh Esmaili, Dr Sasan Kargarnezhad (2024) L'intelligence artificielle dans l'odontologie, EDITION NOTRE SAVOIR Publishing Publishing. ISBN: 978-620-6622771.
39. Dr Omid Panahi, Dr Faezeh Esmaili, Dr Sasan Kargarnezhad (2024) Intelligenza artificiale in odontoiatria, SAPIENZA Publishing. ISBN: 978-620-6622788.
40. Dr Omid Panahi, Dr Faezeh Esmaili, Dr Sasan Kargarnezhad (2024) Inteligência Artificial em Medicina Dentária, NOSSO CONHECIMENTO Publishing. ISBN: 978-620-6622795.
41. Dr Omid Panahi, Dr Sevil Farrokh Eslamlou, Peridontium: Estrutura, função e gestão clínica, lSBN: 978-620-8-74561-5.
42. Dr Omid Panahi, Dr Shabnam Dadkhah, AI in der modernen Zahnmedizin, ISBN:978-620-8-74877-7.
43. Dr Omid Panahi, Dr Shabnam Dadkhah, La IA en la odontología moderna, ISBN:978-620-8-74881-4.
44. Dr Omid Panahi, Dr Shabnam Dadkhah, L'IA dans la dentisterie moderne, ISBN:978-620-8-74882-1.
45. Dr Omid Panahi, Dr Shabnam Dadkhah, L'intelligenza artificiale nell'odontoiatria moderna, ISBN:978-620-8-74883-8.
46. Dr Omid Panahi, Dr Shabnam Dadkhah, Sztuczna inteligencja w nowoczesnej stomatologii, ISBN:978-620-8-74884-5.
47. Dr Omid Panahi, Dr Shabnam Dadkhah, A IA na medicina dentária moderna, ISBN:978-620-8-74885-2.
48. Dr Omid Panahi, Dr Sevil Farrokh Eslamlou, Dr Masoumeh Jabbarzadeh, Digitale Zahnmedizin und künstliche Intelligenz, ISBN: 978-620-8-73910-2.
49. Dr Omid Panahi, Dr Sevil Farrokh Eslamlou, Dr Masoumeh Jabbarzadeh, Odontología digital e inteligencia artificial, ISBN: 978-620-8-73911-9.
50. Dr Omid Panahi, Dr Sevil Farrokh Eslamlou, Dr Masoumeh Jabbarzadeh, Dentisterie numérique et intelligence artificielle, ISBN: 978-620-8-73912-6.
51. Dr Omid Panahi, Dr Sevil Farrokh Eslamlou, Dr Masoumeh Jabbarzadeh, Odontoiatria digitale e intelligenza artificiale, ISBN: 978-620-8-73913-3.
52. Dr Omid Panahi, Dr Sevil Farrokh Eslamlou, Dr

Masoumeh Jabbarzadeh, Stomatologia cyfrowa i sztuczna inteligencja, ISBN: 978-620-8-73914-0.
53. Dr Omid Panahi, Dr Sevil Farrokh Eslamlou, Dr Masoumeh Jabbarzadeh, Medicina dentária digital e inteligência artificial, ISBN: 978-620-8-73915-7.
54. Dr Omid Panahi, Stammzellen aus dem Zahnmark, ISBN: 978-620-4-05355-4.
55. Dr Omid Panahi, Células madre de la pulpa dental, ISBN: 978-620-4-05356-1
56. Dr Omid Panahi, Стволовые клетки пульпы зуба, ISBN: 978-620-4-05357-8.
57. Dr Omid Panahi, Cellules souches de la pulpe dentaire, ISBN: 978-620-4-05358-5.
58. Dr Omid Panahi, Cellule staminali della polpa dentaria, ISBN: 978-620-4-05359-2.
59. Dr Omid Panahi, Dr Sevil Farrokh Eslamlou, Peridontium: Struktur, Funktion und klinisches Management, ISBN:978-620-8-74556-1.
60. Dr Omid Panahi, Dr Sevil Farrokh Eslamlou, Peridoncio: Estructura, función y manejo clínico, ISBN:978-620-8-74557-8.
61. Dr Omid Panahi, Dr Sevil Farrokh Eslamlou, Le péridontium : Structure, fonction et gestion clinique, ISBN:978-620-8-74558-5.
62. Dr Omid Panahi, Dr Sevil Farrokh Eslamlou, Peridonio: Struttura, funzione e gestione clinica, ISBN:978-620-8-74559-2.
63. Dr Omid Panahi, Dr Sevil Farrokh Eslamlou, Peridontium: Struktura, funkcja i postępowanie kliniczne, ISBN:978-620-8-74560-8.
64. Maryam Gholizadeh, Dr Omid Panahi (2021) Sistema de Investigação em Sistemas de Informação de Gestão de Saúde, NOSSO CONHECIMENTO Publishing. ISBN: 978-620-3-67052-3.
65. Maryam Gholizadeh, Dr Omid Panahi, (2021) Система исследований в информационных системах управления здравоохранением , SCIENCIA SCRIPTS Publishing. ISBN: 978-620-3-67053-0.
66. Dr Leila Ostovar, Dr Kamal Khadem Vatan, Dr Omid Panahi (2020) Clinical Outcome of Thrombolytic Therapy, Scholars Press Academic Publishing. ISBN: 978-613-8- 92417-3.
67. Maryam Gholizadeh, Dr Omid Panahi (2021) Investigating System in Health Management Information Systems, Scholars Press Academic Publishing. ISBN: 978- 613-8-95240-4.
68. Maryam Gholizadeh, Dr Omid Panahi (2021) Untersuchungssystem im Gesund heits management Informations systeme, Unser wissen Publishing. ISBN: 978-620-3-67046-2.
69. Maryam Gholizadeh, Dr Omid Panahi (2021) Sistema de investigación en sistemas de información de gestión sanitaria, NUESTRO CONOC, MENTO Publishing. ISBN: 978-620-3-67047-9.
70. Maryam Gholizadeh, Dr Omid Panahi (2021) Système d'investigation dans les systèmes d'information de gestion de la santé, EDITION NOTRE SAVOIR Publishing. ISBN: 978-620-3-67048-6.
71. Maryam Gholizadeh, Dr Omid Panahi, (2021), Indagare il sistema nei sistemi informativi di gestione della salute, SAPIENZA Publishing. ISBN: 978-620-3-67049-3.
72. Maryam Gholizadeh, Dr Omid Panahi (2021) Systeemonderzoek in Informatiesystemen voor Gezondheidsbeheer, ONZE KENNIS Publishing. ISBN: 978-620-3-67050-9.
73. Maryam Gholizadeh, Dr Omid Panahi (2021) System badawczy w systemach informacyjnych zarządzania zdrowiem, NAZSA WIEDZA Publishing. ISBN: 978-620-3-67051-6.
74. Dr Omid Panahi, Dr Faezeh Esmaili, Dr Sasan Kargarnezhad (2024) Искусственный интеллект в стоматологии, SCIENCIA SCRIPTS Publishing. ISBN: 978-620-6622801.
75. Dr Shima Esmaielzadeh, Dr Omid Panahi, Dr Fatmanur Ketenci Çay (2020) Application of Clay's in Drug Delivery in Dental Medicine, Scholars Press Academic Publishing. ISBN:978-613-8-94058-6.
76. Panahi O (2025) The evolving partnership: surgeons and robots in the maxillofacial operating room of the future. J Dent Sci Oral Care 1: 1-7.
77. O Panahi (2025) The Future of Medicine: Converging Technologies and Human Health. Journal of Bio-Med and Clinical Research. RPC Publishers 2.
78. O Panahi (2025) Nanomedicine: Tiny Technologies, Big Impact on Health. Journal of Bio-Med and Clinical Research. RPC Publishers 2.
79. O Panahi (2025) The Age of Longevity: Medical Advances and The Extension of Human Life. Journal of Bio-Med and Clinical Research. RPC Publishers 2.
80. Panahi O (2025) Predictive Health in Communities: Leveraging AI for Early Intervention and Preven

tion. Ann Community Med Prim Health Care 3: 1027.
81. Panahi O (2025) Digital Health Equity: Leveraging IT and AI for Community Well-being. Ann Community Med Prim Health Care 3: 1028.
82. Koyuncu B, Gokce A, Panahi P (2015) The use of the Unity game engine in the reconstruction of an archeological site. In 19th Symposium on Mediterranean Archaeology (SOMA 2015) 95-103.
83. Koyuncu B, Meral E, Panahi P (2015) Real time geolocation tracking by using GPS+GPRS and Arduino based SIM908. IFRSA International Journal of Electronics Circuits and Systems (IIJECS) 4: 148-150.
84. Koyuncu B, Uğur B, Panahi P (2013) Indoor location determination by using RFIDs. International Journal of Mobile and Adhoc Network (IJMAN) 3: 7-11.
85. Omid Panahi (2025) The Impact of Artificial Intelligence in Medical Diagnosis. Int J Nurs Health Care 2:1-4.
86. Omid Panahi (2025) The AI Revolution in Healthcare. Int J Nurs Health Care 2: 1-4.
87. Omid Panahi (2025) Beyond the Bedside: How Future Tech is Revolutionizing Medical Care. Int J Nurs Health Care 2: 1-4.
88. Omid Panahi (2025) The Algorithmic Clinician: AI's Transformative Role in Modern Medicine. Int J Nurs Health Care 2: 1-4.
89. Omid Panahi, Zahra Shahbazpour (2025) Healthcare Reimagined: AI and the Future of Clinical Practice. Am J Biomed Sci & Res 27.
90. Panahi O (2025) Smart Implants: Integrating Sensors and Data Analytics for Enhanced Patient Care. Dental. 7: 22.