Preface

Virosa Journal of AI in Science and Healthcare (VJAISH)

Dinesh P Mital

The Virosa Journal of AI in Science and Healthcare is established to document and accelerate the thoughtful integration of artificial intelligence into scientific discovery and clinical practice. Our scope spans foundational algorithmic advances, rigorous validation studies, translational research, implementation science, and the ethical, regulatory, and social considerations that determine whether innovations become safe, effective, and broadly beneficial. In this inaugural issue of the Journal, we embark on a journey through a landscape, applications of artificial intelligence and compassionate science and healthcare converge. The journal will initiate bridge the gap between cutting-edge technology-based models, emergence of AI, and the daily realities of scientists, clinicians, patients, and researchers. The goal of this journal is to develop a showcase on how data-driven approaches can amplify human expertise, in various disciplines of sciences and healthcare to solve problems in a most effective way.

AI has matured from proof-of-concept to a set of tools that can reshape workflows, reveal previously hidden patterns in complex data, and enable more precise, personalized care. This journal seeks contributions that combine methodological rigor with real-world relevance: reproducible models, explainable systems, robust evaluation on representative populations, transparent reporting of limitations, and careful attention to data provenance and bias mitigation. We prioritize work that demonstrates measurable impact on scientific understanding, clinical decision-making, patient outcomes, or healthcare delivery. We welcome submissions from computer scientists, statisticians, clinicians, biomedical researchers, public health specialists, ethicists, and policy scholars. We also encourage collaborations that bridge domains—showing how algorithmic advances inform biology and medicine, and how clinical realities reshape technical priorities. Each contributed article should make clear both the computational novelty and the pathway to adoption, including validation, integration, and stewardship.

Beyond technical excellence, the journal commits to advancing responsible innovation. We invite studies on governance, equity, safety, and trust; reproducibility-focused papers such as negative results and replication studies; and thoughtful perspectives that anticipate long-term implications. By elevating rigorous, transparent, and socially aware work, we aim to guide the field toward solutions that improve health while respecting patient rights and public values.We hope this journal becomes a forum where ambitious ideas meet careful evidence and where multidisciplinary teams build the next generation of tools for science and healthcare. Together, we can ensure that AI’s promise is realized in ways that are effective, equitable, and enduring.

Our mission is to provide a rigorous, interdisciplinary platform for exploring how AI technologies—machine learning, natural language processing, deep learning, big data analytics, and beyond—are being applied to solve complex scientific and medical challenges. We welcome contributions that span theoretical innovation, applied research, ethical considerations, and translating impact.. The contributions here, in this journal, examine not only AI based technical

innovations in healthcare industry, but also develop appropriate and reliable frameworks needed to ensure responsible deployment. Using this cutting-edge technology-AI based journal, we will curate original research, applied research, clinical case studies, and thought-provoking commentaries to inspire holistic dialogue. From emerging deep learning applications in sciences to innovative adaptive learning approaches safeguarding data integrity, each piece will illuminate a facet of AI's potential to transform outcomes delivery at its highest efficiency.

Another key focus area of this journal will cover applications of artificial intelligence in healthcare. It is not only about optimizing the accuracy or automation of processes, but it is about reshaping the patients' experience. When a clinician utilizes intelligence machines to identify early disease markers, they utilize precious time to connect with patients on a very effective and human level. When artificial intelligence-based processing eases administrative burdens, caregivers can devote more energy to empathetic listening and optimize the decision-making processes at various stages of patient management. This symbiosis of technology and empathy lies at the heart of every article in this volume. We invite researchers, clinicians, technologists, and policymakers to engage with this journal not only as readers but as contributors to a growing dialogue. Together, we can shape an AI-enabled future that is equitable, evidence-based, and deeply human-centered.

It is our sincere hope that this new AI based Virosa journal will spark new collaborations, encourage researchers to publish their latest developments in generative and regenerative AI, as applied in sciences and healthcare. We will invite readers to innovate question, assumptions, investigate new approaches, challenge methodologies, and envision novel applications that will prioritize both efficacy and humanity.

As AI continues to reshape sciences and medicine, researchers are exploring a spectrum of domains where algorithms and data-driven insights will improve patient care, streamline operations, and accelerate discovery. We will be looking forward to contributions from researchers, educators and healthcare providers to submit their contributions to areas related to AI in healthcare, specifically in **areas like:**

- Spotlight on emerging AI ethics frameworks and regulatory landscapes
- In-depth reviews of AI integration within sciences and healthcare
- Tutorials on reproducible workflows for data scientists
- Big Data analytics for scientific modelling and clinical applications
- Integrating AI-enabled analytics on wearable sensors, mobile apps, and home-based devices to extend monitoring capabilities beyond traditional settings.
- Generative and Regenerative AI based modelling in scientific and healthcare applications
- Deep learning models in various scientific applications
- Machine learning based deep-learning models to detect anomalies in various scientific applications often matching or surpassing human experts in sensitivity and specificity.
- Predictive Analytics and scientific modeling, leveraging large-scale data to forecast future events, Perform knowledge mining, data discovery, natural language modeling.
- Drug Discovery and Development Applying AI to screen compounds, predict molecular interactions, and optimize clinical trial design—dramatically reducing time and cost to bring new therapies to market.

- Natural Language Processing (NLP) and Conversational Agents Mining electronic health records for insights, automating clinical documentation, and deploying chatbots to guide patients through care pathways while alleviating administrative burdens.
- Generative and re-generative AI Applications harnessing large language and image models and generating synthetic datasets for algorithm training.

We hope this new Journal will be able to provide a very effective platform for the researchers to communicate their innovative achievements.

Dinesh P Mital

Editor-in-Chief