Special Issue on

Advanced Computational Intelligence and Smarter Technology Paradigms in Healthcare

It is essentially undeniable that modern health care is an information- and knowledge intensive enterprise. The information collected in health care includes—among other things—medical records of individual patients, laboratory test results, information about treatment protocols and drug interactions, and a variety of financial and administrative information. Advanced Computational Intelligence (ACI) paradigms are increasingly used for implementing robust computer applications to foster safety, quality and efficacy in all aspects of healthcare. This research book covers an ample spectrum of the most advanced applications of Computational Intelligence in Healthcare. Advanced Computational Intelligence (ACI) paradigms are increasingly used for implementing robust computer applications to foster safety, quality and efficacy in all aspects of healthcare. The computer science research community in meeting two challenges posed by health care information technology: identifying how today’s computer science-based methodologies and approaches might be applied more effectively to health care and explicating how the limitations in these methodologies and approaches might be overcome through additional research and development. Biomedical research is being revolutionized by new technologies for generating high throughput data. The physicians also taking decision based on who have worked with information technologies. In the future, health care providers will need to rely increasingly on information technology (IT) to acquire, manage, analyze, and disseminate health care information and knowledge. Many studies have identified deficiencies in the current health care system, including inadequate care, superfluous or incorrect care, immense inefficiencies and hence high costs, and inequities in access to care. In response, federal policy makers have tended to focus on the creation and interchange of electronic health information and the use of IT as critical infrastructural improvements whose deployments help to address some (but by no means all) of these deficiencies. Any systematic effort to change the medical and health information management paradigm from one based on paper to one based on IT must address two basic challenges: using the best technology available today to build and deploy systems in the short term and identifying the gaps between the best of today’s technology and what is ultimately needed to improve health care. The first provides
opportunities for near-term improvement; the second informs basic research and the design of future systems. There are deep intellectual research challenges at the health care and computer science (and health/biomedical informatics as well). Some problems in health care can be seen as having solutions on a relatively clear path forward from existing technologies (e.g., aggregation of patient health care information into a common data repository. Many meaningful and useful steps can be taken today toward this goal. However, this goal reflects expectations for improvement in the quality and cost-effectiveness of health care that will require more than just wider implementation of today’s health care information technology.

- Biomedical informatics
- Health Care Informatics
- Human-computer interaction
- Medical Electronics
- Clinical decision support
- Decision making in medicine effectiveness
- Cognitive categorizing in medical information system
- Computing for Healthcare
- Internet of things for Health care
- Algorithms and Approaches for Health care
- Bioengineering
- Computational biology
- Bioinformatics
- Microscale engineering for the Health cares
- Computational cognitive science
- Biomedical signal and image processing
- Design and Analysis of Algorithms
- Computational Techniques in Systems Biology
- Artificial Intelligence
- Expert Systems
- Decision-Support Nano Systems
- Nano Technology and Nano Medicine
- Social Networking and Health Systems
- Virtual Reality in Psychotherapy
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Scheduled Dates

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