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Call for Book Chapters

SMART HEALTHCARE AND MACHINE LEARNING

ABOUT BOOK

Smart healthcare with machine learning techniques offers a transformative paradigm that utilizes the power of new technology, data analytics, and interconnected devices to enhance the quality, efficiency, and accessibility of healthcare services. This involves leveraging Internet of Things (IoT) devices, wearable technology, and machine learning algorithms to monitor patient health, predict medical conditions, and offer personalized treatment recommendations. This explores the convergence of healthcare and cutting-edge technology, making it a captivating subject for readers interested in future research. We encourage researchers from academia and industry to contribute their cutting-edge research and insights to this book. By exploring the synergy between smart healthcare and machine learning, we aim to advance our understanding of how these technologies can collaborate to revolutionize patient care and healthcare delivery.

Submission Guidelines: Single Column format, Times New Roman, 12pt, Use Equation option for formula.

TO SUBMISSION

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IMPORTANT DATES

Submission Deadline: 30 December 2023

Notification of Acceptance: 15 January 2024

Full Chapter Submission: 20 January 2024



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TOPICS INCLUDE (but not limited to):

Medical, Communications and Networking:

- Medical edge computing
- Medical internet of things
- Health IT Infrastructure
- QICS-Qualitative Intelligence and Communication Systems
- RTLS – Real-Time Location Systems
- Converged networks and applications
- AI/ML breakthroughs and analysis for next-gen intelligent transportation systems
- ML-enabled smart sensors and architectures for autonomous mobile applications
- AI/ML in human machine interactions for advanced autonomous systems
- Network and services virtualization
- Quality of Service (QoS) and Quality of Experience (QoE)
- Software-Defined Networking (SDN) and network management
- Delay-tolerant, fault-tolerant and reliable communication
- In-hospital networking, body area networking and cloud-integrated networking
- Nanoscale/ molecular communications
- Network coding and error detection/correction
- Resilience and robustness communications
- Data Security and Protection
- Impacts and effects of ML algorithms on intelligent autonomous systems and cyber security

Digital Imaging and Communications in Medicine (DICOM). Biomedical, and Health Informatics:

- Bioinformatics
- HCI – Human Computing Interaction
- CDSS- Clinical Decision Support Systems
- ePrescription
- eTherapy
- Medical Dictation
- Interoperability for personal Health systems
- Data preprocessing, cleansing, management and mining
- Data quality assessment and improvement
- Medical imaging
- Computer-aided detection, hypothesis generation and diagnosis
- Evidence-based medicine
- Evolutionary and longitudinal patient and disease models
- Clinical workflow
- Medication adherence and health monitoring
- Smart health and big data
- Methods for inputting, transmitting and processing data for e- health
- Artificial intelligence (AI) and ML algorithms for autonomous process optimization
- Evolving ML techniques and applications for autonomous smart cities

Multimedia e-health data exchange services. Signal/Data Processing and Computing For Health Systems:

- Big data models, theories, algorithms, approaches, solutions
- Machine learning, data mining, web mining, and graph mining
- Deep Learning for Health
- Wearable sensors for patients monitoring
- Virtual rehabilitation (stroke, Parkinson disease, Alzheimer disease, multiple sclerosis)
- Telemedicine for aging
- Gait analysis (arm swing, balance, posture control)
- Eye-tracking
- Falls (detection, tracking)
- Smart building for future of health and the wellbeing
- Neuromodulation
- Medical Speech/Voice Recognition Systems
- mHealth and Mobile Device Software for Healthcare
- Cancer (screening and diagnosis)
- Assistive Technology and Enhanced Living Environment (ELE)
- ML trends in advanced intelligent control of next-gen autonomous systems

Complex systems and optimal pandemic control. Health Information Systems:

- Health Information Systems
- Patient Relationship Management
- Health Information Exchange Solutions
- Medical Semantic Web
- Medical & Patient Scheduling Software
- Medication Administration Systems
- Healthcare Information Systems Integration, Interoperability & Connectivity solutions
- Medical Records & Document Scanning
- Ethics and Social Impact of Information Systems and New Challenges
- Clinical Reporting Systems
- Nursing Informatics
- Personal Health Records
- Picture Archiving and Communication Systems (PACS)
- Building Information Modelling (BIM) for healthy buildings
- The role of IT to a safe building construction.
- ML-enriched development for medical autonomous systems and personalized applications
- ML-based critical infrastructure security for next-autonomous systems

We look forward to your contributions and collaboration in making this effort to the research community a fruitful outcome.

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