

## Intelligent Healthcare Applications using Deep Reinforcement Learning

Researchers have applied deep reinforcement learning (RL) techniques to develop intelligent healthcare applications. The primary focus of deep RL agents in the healthcare domain is to diagnose diseases and forecast treatment outcomes. The deep RL agent can also help treat humans by finding the optimal treatment method. It can determine the optimal treatment policy for a particular patient in a dynamically changing environment. This special issue focuses on seeking original articles that develop innovative deep RL approaches for healthcare applications. The special issue intends to invite original, high-quality contributions that are not yet published or that are not currently under review by other journals or peer-reviewed conferences in the area of deep RL for intelligent healthcare applications.

The topics of interest for the special issue include, but not limited to, the following:

- Monte Carlo tree search for different medical treatments
- Learning optimal policies from observational healthcare data
- Deep RL with partial observability in healthcare applications
- Applying dual gradient descent in medical informatics
- Actor-critic using Kronecker-Factored trust region
- Hardware architectures for deep RL in the healthcare domain
- IoT assisted deep RL based intelligent healthcare application
- Applying iterative linear quadratic regulator in healthcare decision-making
- Deep RL based reward formulation in healthcare domains
- Model-based deep RL methods applied in healthcare
- Applying deep q-network for intelligent healthcare applications
- Meta-learning in health informatics
- Credit assignment using inverse RL in the healthcare domain

### Important dates

- Paper submission due: March 1, 2021
- First-round acceptance notification: May 30, 2021
- Revision submission: July 15, 2021
- Notification of final decision: October 1, 2021
- Submission of final paper: November 15, 2022
- Publication date: January 2022

**Submissions for a special issue must include “Intelligent Healthcare Applications using Deep Reinforcement Learning” in the title of the paper or in the Comments upon submission.** This designation is required so that the paper will be allocated to you as special issue editor! Otherwise, we will not be able to discriminate regular issue papers from special issue papers.

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