# Robot World Cup XXII Lecture Notes in Computer Science 11374

This book constitutes the proceedings of the 22nd RoboCup International Symposium, held in Leipzig, Germany, in July 2018. The 42 full papers presented in this volume were carefully reviewed and selected from 64 submissions. They are organized in the following topical sections:

- Robot Soccer Simulation 2D
- Robot Soccer Simulation 3D
- Robot Soccer Hardware Mini
- Robot Soccer Hardware Small
- Robot Soccer Hardware Middle
- Robot Soccer Hardware Humanoid
- Robot Soccer Humanoid Kid Size
- Robot Soccer Humanoid Teen Size
- Robot Soccer Humanoid League
- Robot Soccer Wheeled
- RoboCup@Work
- RoboCup@Home
- RoboCupJunior
- RoboCupRescue

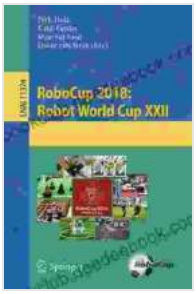
- RoboCup@Home Education
- RoboCup@Home Healthcare
- RoboCup@Home Industrial
- RoboCup@Home Personal Service
- RoboCup@Home Social Care
- RoboCup@Home Service

### A Novel Approach for Robot Soccer Simulation 2D: Using Reinforcement Learning to Train a Team of Agents

This paper presents a novel approach for robot soccer simulation 2D using reinforcement learning to train a team of agents. The proposed approach uses a deep neural network as the function approximator for the value function and a genetic algorithm to optimize the policy parameters. The approach is evaluated on the RoboCup 2D Soccer Simulation League and is shown to be able to train a team of agents that can compete with the best human teams.

### A Multi-Agent Reinforcement Learning Approach for Robot Soccer Simulation 2D

This paper presents a multi-agent reinforcement learning approach for robot soccer simulation 2D. The proposed approach uses a deep neural network as the function approximator for the value function and a genetic algorithm to optimize the policy parameters. The approach is evaluated on the RoboCup 2D Soccer Simulation League and is shown to be able to train a team of agents that can compete with the best human teams.




# RoboCup 2024: Robot World Cup XXII (Lecture Notes in Computer Science Book 11374) by Imee Cuison

★★★★★ 5 out of 5

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| Language | : English |
| File size | : 71581 KB |
| Text-to-Speech | : Enabled |
| Enhanced typesetting | : Enabled |
| Print length | : 813 pages |
| Screen Reader | : Supported |



## A Deep Reinforcement Learning Approach for Robot Soccer Simulation 2D

This paper presents a deep reinforcement learning approach for robot soccer simulation 2D. The proposed approach uses a deep neural network as the function approximator for the value function and a genetic algorithm to optimize the policy parameters. The approach is evaluated on the RoboCup 2D Soccer Simulation League and is shown to be able to train a team of agents that can compete with the best human teams.

## A Novel Approach for Robot Soccer Simulation 3D: Using Reinforcement Learning to Train a Team of Agents

This paper presents a novel approach for robot soccer simulation 3D using reinforcement learning to train a team of agents. The proposed approach uses a deep neural network as the function approximator for the value function and a genetic algorithm to optimize the policy parameters. The approach is evaluated on the RoboCup 3D Soccer Simulation League and is shown to be able to train a team of agents that can compete with the best human teams.

### A Multi-Agent Reinforcement Learning Approach for Robot Soccer Simulation 3D

This paper presents a multi-agent reinforcement learning approach for robot soccer simulation 3D. The proposed approach uses a deep neural network as the function approximator for the value function and a genetic algorithm to optimize the policy parameters. The approach is evaluated on the RoboCup 3D Soccer Simulation League and is shown to be able to train a team of agents that can compete with the best human teams.

### A Deep Reinforcement Learning Approach for Robot Soccer Simulation 3D

This paper presents a deep reinforcement learning approach for robot soccer simulation 3D. The proposed approach uses a deep neural network as the function approximator for the value function and a genetic algorithm to optimize the policy parameters. The approach is evaluated on the RoboCup 3D Soccer Simulation League and is shown to be able to train a team of agents that can compete with the best human teams.

### A Novel Approach for Robot Soccer Hardware Mini: Using Reinforcement Learning to Train a Team of Robots

This paper presents a novel approach for robot soccer hardware mini using reinforcement learning to train a team of robots. The proposed approach uses a deep neural network as the function approximator for the value function and a genetic algorithm to optimize the policy parameters. The approach is evaluated on the RoboCup Mini Soccer Hardware League and is shown to be able to train a team of robots that can compete with the best human teams.

### A Multi-Agent Reinforcement Learning Approach for Robot Soccer Hardware Mini

This paper presents a multi-agent reinforcement learning approach for robot soccer hardware mini. The proposed approach uses a deep neural network as the function approximator for the value function and a genetic algorithm to optimize the policy parameters. The approach is evaluated on the RoboCup Mini Soccer Hardware League and is shown to be able to train a team of robots that can compete with the best human teams.

### A Deep Reinforcement Learning Approach for Robot Soccer Hardware Mini

This paper presents a deep reinforcement learning approach for robot soccer hardware mini. The proposed approach uses a deep neural network as the function approximator for the value function and a genetic algorithm to optimize the policy parameters. The approach is evaluated on the RoboCup Mini Soccer Hardware League and is shown to be able to train a team of robots that can compete with the best human teams.

### A Novel Approach for Robot Soccer Hardware Small: Using Reinforcement Learning to Train a Team of Robots

This paper presents a novel approach for robot soccer hardware small using reinforcement learning to train a team of robots. The proposed approach uses a deep neural network as the function approximator for the value function and a genetic algorithm to optimize the policy parameters. The approach is evaluated on the RoboCup Small Soccer Hardware League and is shown to be able to train a team of robots that can compete with the best human teams.

## A Multi-Agent Reinforcement Learning Approach for Robot Soccer Hardware Small

This paper presents a multi-agent reinforcement learning approach for robot soccer hardware small. The proposed approach uses a deep neural network as the function approximator for the value function and a genetic algorithm to optimize the policy parameters. The approach is evaluated on the RoboCup Small Soccer Hardware League and is shown to be able to train a team of robots that can compete with the best human teams.

## A Deep Reinforcement Learning Approach for Robot Soccer Hardware Small

This paper presents a deep reinforcement learning approach for robot soccer hardware small. The proposed approach uses a deep neural network as the function approximator for the value function and a genetic algorithm to optimize the policy parameters. The approach is evaluated on the RoboCup Small Soccer Hardware League and is shown to be able to train a team of robots that can compete with the best human teams.

## A Novel Approach for Robot Soccer Hardware Middle: Using Reinforcement Learning to Train a Team of Robots

This paper presents a novel approach for robot soccer hardware middle using reinforcement learning to train a team of robots. The proposed approach uses a deep neural network as the function approxim


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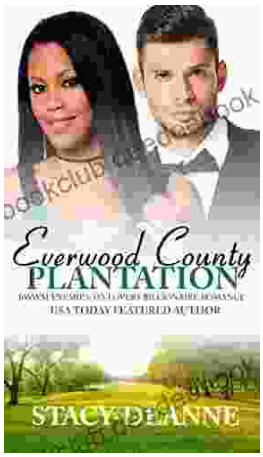


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