

# The Latest Advances on AI and Robotics Applications

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## I. INTRODUCTION

The applications of artificial intelligence and robotics, their associated technologies, and their integration continue to grow and are seen in more and more diverse fields [1,2]. With these considerations in mind, this issue of the *Journal of Artificial Intelligence and Technology* presents five state-of-the-art peer-reviewed contributions, ranging from theory to prototyping, and covering several distinct application topics.

## II. PREVIEW OF THE STUDIES IN THIS ISSUE

We outline the topic domains and the key contributions of the selected papers in this section to help readers browsing this issue.

- (i) Vehicle Edge Computing is a technology developed based on edge computing and the Internet of Things (IoT) systems. The first paper presents a survey on the main offloading schemes and methods in the Vehicle Edge Computing field and a classification of the current offloading of computing tasks into different categories. The paper also discusses the prospect of Vehicle Edge Computing [3].
- (ii) Boolean logic specifies combinations of true and false values to make a logical conclusion. In the complex world, multi-logic that uses more than two possible values can represent more complex situations in simpler expressions. The second paper in this issue develops a four-dimensional cognition method for characterization of unknown, undefined, and impossible objects for representing true, false, uncertain, and Turiyam regions. The paper also discusses through an example of the visualization of these types of data via graph, misleading graph, uncertain graph, and unknown or Turiyam graph [4].
- (iii) Medical application is one of the emerging domains of artificial intelligence and robotics. The third paper presents a mechanism to come up with uniform Named Entity Recognition (NER) tagged medical corpora that is fed and trained with 14,407 endocrine patients' dataset in CSV format diagnosed with diabetes mellitus and comorbidity diseases [5].
- (iv) The fourth paper discusses the small inspection robots that explore different types of environments and collect data from dangerous or difficult to access areas in an environment. Design and manufacture of such robots can be expensive.

The paper proposes a new iteration of using Non-Assembly walking mechanism design for small 3D-printed exploration robotics using an hexapod gait. The paper shows that complex robotic mechanisms can be produced using Non-Assembly techniques to reduce cost [6].

- (v) Patient and elderly cares are an important domain of artificial intelligence and robotics. The fifth paper in this issue presents a novel standing assistance robot, for assisting the patient to stand up safely while using their physical abilities, which realizes and takes advantage of the voluntary movements of the patient within a safety motion range [7].

The guest editor would like to thank the reviewers for their efforts in reviewing the papers and the authors for their positive responses to the reviewers' comments and suggestions. Also, special thanks are due to the journal editor in chief, Prof. Yinong Chen, and to the members of the editorial board, for their support of this issue, which is hoped to constitute a valuable addition to scientific and developmental knowledge in artificial intelligence and robotics and its associated technologies.

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