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In this issue

Research Article

Open Access Research Article PTZAID:ARA-4-104

Modeling, Simulation and Proof-of-Concept of an Augmentation Ankle Exoskeleton with a Manually-Selected Variable Stiffness Mechanism

Published On: August 11, 2020 | Pages: 013 - 017

Author(s): Shaikha F Abdulmajeed, Khaled S Al-Kaabi, Mohammad I Awad*, Dongming Gan and Kinda Khalaf

Despite its inherent complexity and wide dynamic variability, healthy human gait is distinguished by smoothness, stability and flexibility with minimal energy consumption. This is in part achieved by the human body's superb inherent joint compliance. In particular, the ankle joint plays an important role with its continuous variable stiffness, as compared to the stiff ...

Abstract View Full Article View DOI: 10.17352/ara.000004

Open Access Research Article PTZAID:ARA-4-103

Optimization of concentric tube continuum robot based on accuracy and overall length of the robot via genetic algorithm

Published On: July 31, 2020 | Pages: 007 - 012

Author(s): Atoosa Davarpanah, Mostafa Khazaee, Amin Moslemi and SE Khadem*

Concentric Tube Continuum Robot (CTR) is a group of continuum robots which is composed of concentric tubes that can be axially translated and rotated at the base relative to one another. Their inverse kinematic is challenging due to their redundancy. On the other hand, knowledge about the inverse kinematics of the concentric-tube continuum robot is essential for contr ...

Abstract View Full Article View DOI: 10.17352/ara.000003

Open Access Research Article PTZAID:ARA-4-102

Enhancing Imbalanced Dataset by Utilizing (K-NN Based SMOTE_3D Algorithm)

Published On: April 25, 2020 | Pages: 001 - 006

Author(s): Khaldoon Alshouiliy*, Sujan Ray, Ali AlGhamdi and Dharma P Agrawal

Big data is currently a huge industry that has grown significantly every year. Big data is being used by machine learning and deep learning algorithm to study, analyze and parse big data and then drive useful and beneficial results. However, most of the real datasets are collected through different organizations and social media and mainly fall under the category of B ...

Abstract View | Full Article View | DOI: 10.17352/ara.000002

Short Communication

Open Access Short Communication PTZAID:ARA-4-106

Pir sensor based security system

Published On: December 30, 2020 | Pages: 022 - 024

Author(s): Sanikommu Umamaheswari*

In this paper passive Infrared sensor “PIR” based security system is introduced. With this sensor we can save power, and effective management at low cost and requires small memory space. The PIR sensor is responsible for detecting the change in infrared radiation levels when an intruder or human is passed through the system or space where it is arranged. Depending on ...

Abstract View | Full Article View | DOI: 10.17352/ara.000006

Mini Review

Open Access Mini Review PTZAID:ARA-4-105

The Future of Robots in a Super-Aged Society

Published On: November 26, 2020 | Pages: 018 - 021

Author(s): Ala Szczepura*, Toshio Nomura and Deidre Wild

It is estimated that the world population aged 65+ will triple from 6.9% to 20% by 2050 [1]. Across the world, different countries are at various stages in this super-ageing journey. Japan is the most rapidly ageing society with 28.2% now in this age group; in contrast, emerging economies such as India have some of the world's youngest populations (6.1% aged 65+) [2]. ...

Abstract View | Full Article View | DOI: 10.17352/ara.000005