Special Issue

Application of Artificial Intelligence and Computer Vision for Detection and Analysis

Message from the Guest Editors

Nondestructive testing, represented by X-ray, ultrasonic, thermography, etc., and machine vision testing, represented by photoelectric testing, are important technologies for defect detection and quality control in the manufacturing and service process of complex products, such as aerospace, petrochemical, special equipment, etc. With the rapid improvement in the automation and informatization of current testing instruments, industry has accumulated a large amount of testing data, including waveform, image, video, etc. However, data analysis is mainly conducted manually, which is inefficient and inconsistent, and makes it difficult to meet the requirements of modern quality control. In recent years, artificial intelligence and computer vision technology have developed rapidly, providing an excellent opportunity to develop intelligent detection data analysis technology and application systems. Therefore, in this special issue, recent efforts and advances in artificial intelligence technology and computer vision technology in data analysis and application systems will be discussed.

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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