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/ML vision technology application to OSI search logic supporting

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Advancements in AI/ML are creating a paradigm shift in virtually every sector of the tech industry. Among the endless applications, AI vision technology based on Deep Neural Network, finds its strength at image processing, pattern recognition and image interpretation, which can be utilized for manufacturing, medical diagnosis, and OSI. Current OSI search logic relies on finding and identifying nuclear test signatures and anomalies by means of inspectors' visual observation and test results of OSI equipment. Normally visual observation could be the first breakthrough to initiate the OSI search logic. OSI visual observation is based on nuclear experts' scientific knowledge of nuclear tests experience. Judgement bias exists as a result of inspector individual difference and human errors. For this case, AI vision could be utilized as supporting strength to assist OSI operations. This work would carry out the preliminary study over the principles of AI vision technology's potential application to OSI mission support. It would also identify the advantages and possible disadvantages of AI/ML for OSI application. For example, AI vision is relied on large amount of data base for model training, this would cause the concern of keeping the balance of OSI operation efficiency and intrusiveness.

Promotional text

This work carried out a preliminary study of AI/ML vision technology application to OSI search logic supporting.

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