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Implementation of artificial intelligence techniques for academic certification authentication

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Abstract

The problem of fraud cases of academic certificates is still ongoing. New cases have been reported worldwide as well as in Malaysia. People tend to get fake or bogus degrees instantly as a shortcut path to get jobs. It is very easy to get a fake degree as it is available cheap and easy online. In April 2018, The Malaysian Anti-Corruption Commission (MACC) has arrested a syndicate that produces fake academic scrolls. The syndicate offers a wide range of degrees using the names of higher institutions in the country. The syndicate sells the fake certificates at RM2000 to RM16000 depends on the type of certificates and institution. This has not only jeopardizes the reputation of the institutes, but organizations whom offer the jobs might not trust the issuer and graduates anymore. We see the needs to provide a solution to encounter this problem by developing an application that protect the authenticity of the academic certificates. The solution provides functions that can prove that the certificates are genuinely produced by the higher institutions. Previously we have developed a mobile app solution supported by a secured web service. The system query student's detail from the institute's database and securely encrypted and save on a separate server while embedded it into a QR code printed on a certificate. However, we find a new method that can be utilized to provide better function and secure than QR. We proposed a new system that integrates with web application to evaluate the authenticity of certificates based on image recognition. It is independent of QR code or any barcode scanning which enables the system to accept any certificate. We believe the utilization of digital security is able to reduce the price of certificate issuance by eliminating the need to embed physical security in a certificate.

Keywords

Fake certificate, artificial intelligence, certificate validation, encryption

Introduction

Academic achievement in higher educations have been part of everyone dreams. Success in academics often results with success in life. Higher institutes award graduates with an academic certificates that contains information about the course that they enrolled. However, with the advancement of digital technology, academic counterfeiting are on the rise ("Academic Fraud, Corruption, and Implications for Credential Assessment," 2017). It is because fake certificates are easily available on a fingertip. It has become a world problem, with new cases reported every year. This phenomena will bring bad reputation to the institute and not only that, the companies who hire graduates will have less confidence in those universities. Thus, the certificate verification becomes a necessary process for job filtering of graduates as well as for them to further studies at other institutions. To encounter this problem a strong authentication and verification methods are needed. Thus we have previously developed an authentication system that can identify whether the certificate is genuine or not. The system query student's

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