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Implementation of Data Science in Field of Homologation

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Abstract : For the use and the import of Keys and ID Transmitter as well as Body Control Modules with radio transmission in a lot of countries, homologation is required. Final deliverables in homologation of the product are certificates. In considering the world of homologation, there are approximately 200 certificates per product, with most of the certificates in local languages. It is challenging to manually investigate each certificate and extract relevant data from the certificate, such as expiry date, approval date, etc. It is most important to get accurate data from the certificate as inaccuracy may lead to missing re-homologation of certificates that will result in an incompliance situation. There is a scope of automation in reading the certificate data in the field of homologation. We are using deep learning as a tool for automation. We have first trained a model using machine learning by providing all country's basic data. We have trained this model only once. We trained the model by feeding pdf and jpg files using the ETL process. Eventually, that trained model will give more accurate results later. As an outcome, we will get the expiry date and approval date of the certificate with a single click. This will eventually help to implement automation features on a broader level in the database where certificates are stored. This automation will help to minimize human error to almost negligible.

Keywords : homologation, re-homologation, data science, deep learning, machine learning, ETL (extract transform loading)
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