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AI for fraud detection for Moroccan Customs Agencies (PoC)

Due to globalization and the increase in imports and exports, fraudulent activities such as tax evasion and smuggling have become more common. Manual inspections conducted by customs administrations can be costly, time-consuming, and prone to human error, making controls less reliable. To address this issue, the Moroccan Customs Administration is exploring the use of AI in its e-clearance system to detect various types of fraud such as misclassification of products, manipulation of origin country, and undervaluation of the imported goods. This study aims to examine the potential use of machine learning and deep learning algorithms to combat these types of fraud and reduce the assignment of customs agents by identifying suspicious transactions more effectively. The project is supported by the BACUDA project, a collaborative research project of the World Customs Organization (WCO), customs members, and data scientists. Its aim is to develop data analytics algorithms in open-source languages to enable all members to deploy them with their own data. The goal is to design features for each transaction, consisting of numerical and categorical characteristics, to allow algorithms to detect anomalies. This work is a proof-of-concept (PoC) highlighting the potential of AI to identify and prevent fraudulent activities in Moroccan customs administrations.

Keywords: Fraud detection, Customs, ML, DL, BACUDA

Biography:

Prof. Hind LAMHARHAR is a professor and a senior NLP and data engineer with a strong theoretical and practical background in both filed higher education and industry. She has working in many CS departments (INSEA: Institute of Statistics and Applied Economics, Hightech: School of Engineering and Management), Mohamed V university, Mohammadia School of Engineering). She is a member of a Decision Support System team at the Moroccan ministry of Economy and Finance. Her main activities are related to AI (ML, DL and NLP), Business Intelligence and Data Analytics. She had the opportunity to conduct several researches related in AI .

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