

# 5<sup>TH</sup> WORLD MACHINE LEARNING AND DEEP LEARNING CONGRESS and

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### Predictive big data analytics and healthcare fraud: From detection to prevention

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The losses from healthcare fraud, over-prescribing and improperly coded insurance claims leading to claim-denials are estimated in the billions of dollars annually. The costs associated with fraud and acts of abuse are increasing insurance premiums for patients and cuts into the profitability of healthcare service providers and payers. The continuing adoption of Electronic Health Records (EHRs) and the advances of machine learning and big data analytics enable more efficient and automated methods for detecting and effectively mitigating the risk of fraudulent activities and illegitimate claims. This paper provides an overview of the new systems and methods to reduce medical claims fraud and a review of open issues and challenges. This paper also proposes a predictive analytics approach to detect potential fraudulent patterns using a set of supervised and unsupervised learning techniques. The proposed approach incorporates both historical and real-time data to identify illegal claims and prevent payouts to fraudsters early in the claims management process lifecycle.

#### Biography

Eman Abu Khoua is a Researcher-Instructor (Big Data Applications) at the College of Information Technology, UAE.

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Najati is an experienced health information technology (IT) professional with 25-year experience in the field. Najati is an expert in advising GCC clients on strategies for selections & implementations of health IT with focus on achieving demonstrable clinical, operational and financial benefits. Najati is well versed in the revenue-cycle-management (RCM) field with knowledge of the various nuances and requirements of GCC countries. Najati's other areas of expertise include smart use of health IT for enhanced patient experience, EDI, data analytics and applications of Artificial Intelligence/Machine Learning (AI/ML) in healthcare. Najati has co-authored three articles for conferences and journals – one having received a best-paper award. Najati's work experience spans top USA medical centers to world class suppliers of health IT.

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