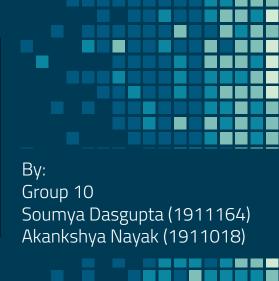
TAX CRIME PREDICTION USING ML

Tax Crime Prediction with Machine Learning: A Case Study in the Municipality of São Paulo

André Ippolito and Augusto Cezar Garcia Lozano

Tax Intelligence Office, Under-secretariat of Municipal Revenue, Secretariat of Finance, São Paulo City Hall, 190 Libero Badaró Street, São Paulo, Brazil

Lozano, Augusto & Ippolito, André. (2021). Tax Crime Prediction with Machine Learning: A Case Study in the Municipality of São Paulo.



Specific Objectives:

- Train a model according to the Indian Tax System(Combined)
- Predict Tax Fine Values(Combined)
- Applying Principal Component Analysis(Combined)
- Inclusion of Time Variable(Combined)

Data Sets:

- Direct Tax Data released by Central Board of Direct Taxes:
 https://incometaxindia.gov.in/Pages/Direct-Taxes-Data.aspx
- Tax defaulters:
 https://office.incometaxindia.gov.in/administration/pages/tax-defaulters.aspx

Midway Work and Expected Results:

- Compare the algorithms like Random Forests, Naive Bayes, Decision Trees, Logistic Regression, Ensemble Learning and Neural Networks using their precision, recall, f-measure, specificity, and accuracy values
- Apply the best algorithm on our validation set

References:

- Lozano, Augusto & Ippolito, André. (2021). Tax Crime Prediction with Machine Learning: A Case Study in the Municipality of São Paulo.
- Johnson, Richard A. & Wichern, Dean W.
 Pearson, Prentice Hall. Applied
 Multivariate Statistical Analysis.

References:

- Mehta, Priya & Kumar, K Sandeep & Kumar, Ravi & Babu, Ch. (2022).
 Enhancement to Training of Bidirectional GAN: An Approach to Demystify Tax Fraud.
- Ko, Andrea et al.; Electronic Government and the Information Systems Perspective, 8th International Conference, EGOVIS 2019, Linz, Austria, August 26-29, 2019 Proceedings; Pg: 47-55
- Mehta, Priya & Mathews, Jithin & Bisht, Dikshant & K., Suryamukhi & Kumar, K Sandeep & Babu, Ch. (2020). Detecting Tax Evaders Using TrustRank and Spectral Clustering.
 10.1007/978-3-030-53337-3_13.