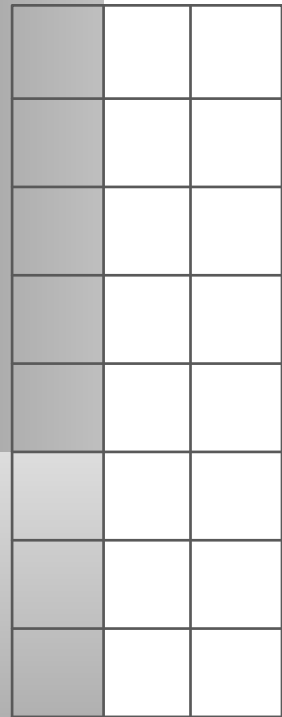
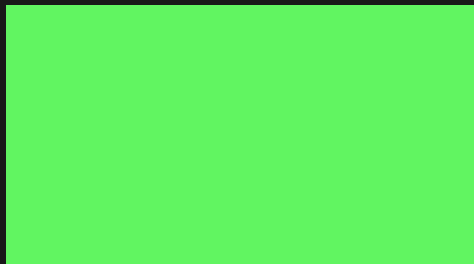
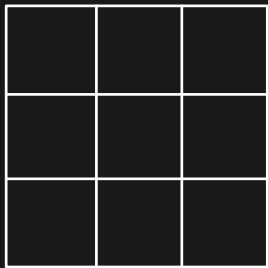




Applying Benford's Law to Image Tampering

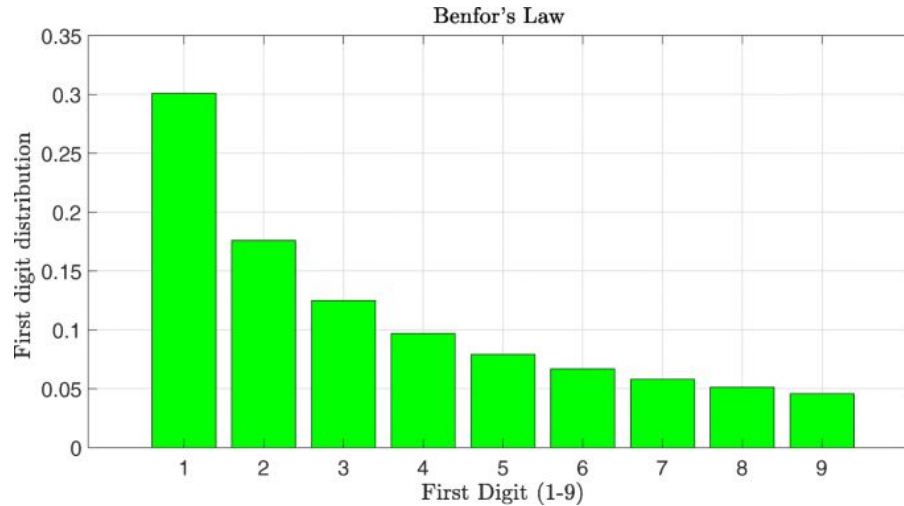
Andrea Fought



Benford's Law

Law

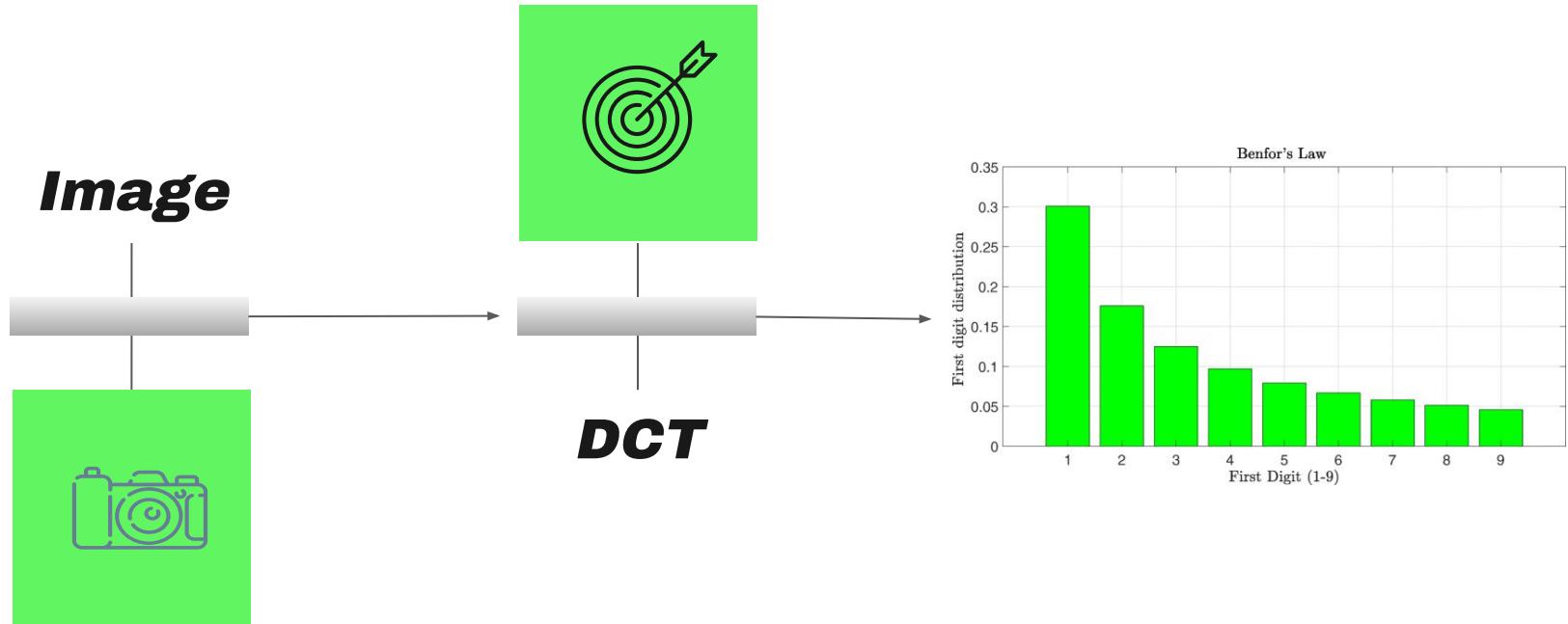
- Law of first digits
- Frank Benford
- Large datasets
-
-



Applications

- Stock market
- Financial statements
- Fibonacci serie
- Populations
- Music
- Images
-

Can the tampering of images be predicted based on their DCT following Benford's Law



Workflow

01

Dataset

Dataset with half images original and other half tampered.

02

DCT code to loop through all images

03

Create Dataframe

Dataframe with Image, image ID, frequency of 1st digits, and if it is original or tampered

04

Machine Learning and graphs

Used decision tree ML and Benford's law graph to predict image tampering

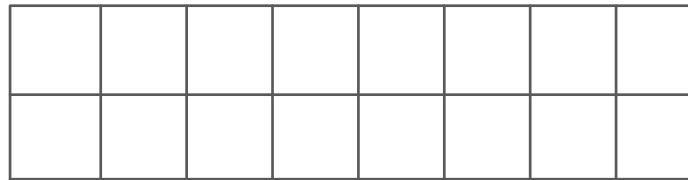
Prediction Model

Show prediction
model on google
colab:

<https://colab.research.google.com/drive/12HhC7AO2IT8R994WX2liHx62h-ynyAc#scrollTo=9eMvvEN6OB->

*Applying
Benford's Law to
Image Tampering*

Andrea Fought



THANKS!

Do you have any questions?

