

Cyber Risk Scoring & Dashboard



Final project presentation on assessing and visualizing cyber risks for small businesses.

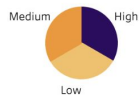
Ilan Sarbac | Developer's Institute | 09.09.2025

Introduction

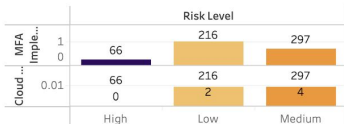
Presented by Ilan Sarbac, combining data analysis passion with insurance expertise.

Project aims to assess and visualize cyber risks affecting small businesses.

DISTRIBUTION OF COMPANIES BY RISK LEVEL



HISTOGRAM OF AVERAGE SCORES BY RISK LEVEL



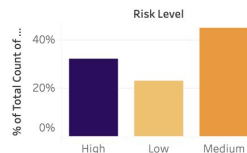
Risk Level



Estimated Cyber Insurance



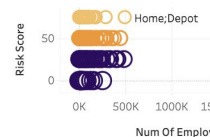
% PAST INCIDENTS VIA RISK LEVEL




AVERAGE SECURITY TRAINING SCORE BY RISK LEVEL



EMPLOYEES VS RISK SCORE





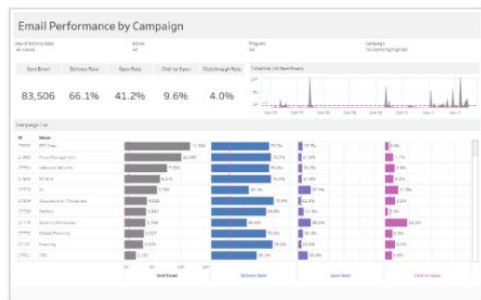
Create a complete data solution from raw data cleaning to machine learning scoring model.

Dataset simulates cyber vulnerability data for SMBs including employee and incident data.

Objectives: calculate cyber risk score, analyze trends, build interactive dashboard.

Project Overview

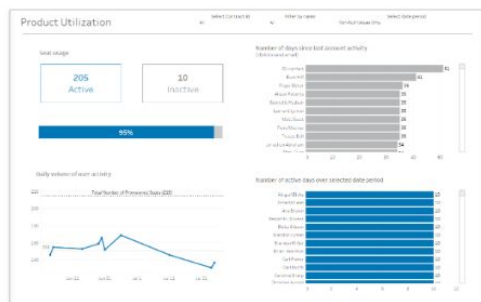
your data source, or use sample data to get started.



Marketo



Oracl



LinkedIn Sales Navigator

Solution and Benefits

- Risk scoring model in Python based on vulnerability metrics.
- Cost simulator estimating insurance cost by risk level.
- Tableau dashboard for fast and intuitive insights.



SME owners to self-assess vulnerability.

Insurance analysts to pre-score clients.

Risk consultants for onboarding or audits.

Potential Users

Demonstration

Full Python pipeline on Google Colab for data cleaning, risk scoring, and simulation.

Tableau dashboard with 5 dynamic charts covering incidents, training, risk levels, and cost.

Dataset ready for integration with BI tools like Power BI and Tableau.



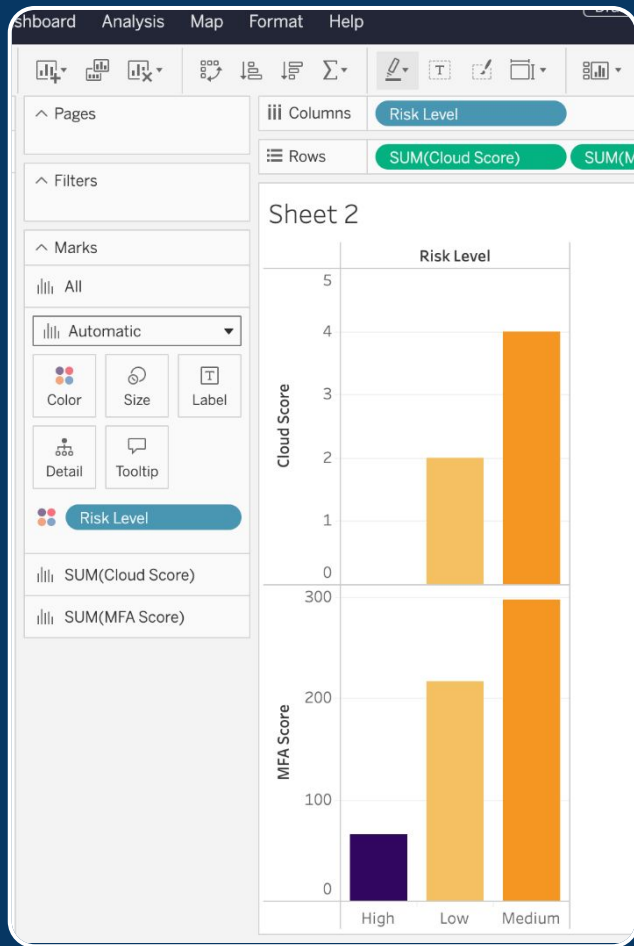


Transforming raw inconsistent data into usable business indicators.

Simplifying scoring logic and matching technical features with financial impact.


Creating a user-friendly dashboard within Tableau's constraints.

Challenges Faced



Solutions to Challenges

- Iterative data cleaning and normalization using Pandas.
- Logical scoring assignment in Python.
- Intuitive chart design in Tableau for easy comparisons.



Add time-series risk evolution.

Automate the scoring pipeline.

Extend with real-world insurance data.

Future Steps

Conclusion

Project sharpened data cleaning and visualization skills.

Applied to a real-world use case: cybersecurity in insurance.

Thank you for your attention and open for questions.

```
columns.tolist())

{'company',
 'sector',
 'revenue',
 'num_of_employees',
 'web_enabled',
 'security_training',
 'cloud_usage',
 'past_cyber_incident',
 'taille_entreprise'}

[8]: import matplotlib.pyplot as plt

# Calcul de la moyenne du Risk Score par taille
moyennes = df.groupby("Taille_Entreprise")["Risk_Score"].mean()

# Affichage sous forme de donut
fig, ax = plt.subplots(figsize=(8, 6))
wedges, texts, autotexts = ax.pie(moyennes, labels=moyennes.index, autopct='%1.1f%%', startangle=90, wedgeprops=dict(wid

# Donut style
ax.set_title("Moyenne du Risk Score par taille d'entreprise")
centre_circle = plt.Circle(0, 0, 0.78, fc="white")
fig.gca().add_artist(centre_circle)

plt.tight_layout()
plt.show()

KeyError                                Traceback (most recent call last)
~/anaconda3/lib/python3.8/site-packages/matplotlib/axes.py in _getitem__(self, key)
    243         if key not in self._obj:
    244             raise KeyError("Column not found: (%s)" % key)
    245         ndim = self._obj[key].ndim
    246         return self._getitem(key, ndim=ndim)

KeyError: 'Column not found: Risk_Score'

Next steps: English error

For col in df.columns:
    print(f"{col}")

{'company',
 'sector',
 'revenue',
 'num_of_employees',
 'web_enabled',
 'security_training',
 'cloud_usage',
 'past_cyber_incident',
 'taille_entreprise'}
```

**Thank you for your time
and attention**