



*Aspect*



A new perspective to spot  
potential corporate vulnerabilities



# Lessons from Barings Bank



# Problem Statement



1. Fragmented and **inconsistent** risk assessment methods



2. Non-public and **non-transparent** results



3. Inconvenient re-assessment and **untimely** detected risk

# Our Solution

**AI-driven** risk analysis and insights



*Aspect*

**Public** corporate information dashboard

**Warning** for potential vulnerabilities



# Main Features

**933133385**

Type of Enterprise: 5

[ADD TO WATCHLIST](#) [RISK ANALYSIS](#)

**Gross Profit**

Year	Gross Profit
2015	-800,000
2016	-100,000
2017	-1,000,000

**OPEX (Operating Expenses)**

Year	OPEX
2015	0.5
2016	1.5
2017	-0.5

**Net Profit**

Year	Net Profit
2015	-800,000
2016	-100,000
2017	-1,000,000

**basic information**

Enterprise ID	933133385
Type of enterprise	5
Industry classification of the company	9
Enterprise's registered capital currency	USD
Enterprise's registered capital	5000.0
Number of business partners	0
Number of limited partners of the business	0
Corporate partnership	0
Number of employees in the enterprise	12.6
Toponym type	
Toponym status	
Whether the toponym is a registered name	441
Whether the toponym is a trading name	0.0
Toponym registration type	9
Economic industry classification of tax-paying enterprises	188
Surcharge applicable to corporate income tax for enterprises	0.05
Tax collection type	2

**Income Statement**

Revenue	279750164942924
Operating income	8725646523032
Main business income	>100000447599999
Other business income	208251682424557
Non-operating income	303132154295144

535352782		<a href="#">ADD TO WATCHLIST</a>	<a href="#">DASHBOARD</a>
Risk Type: undefined			
Data Not Available			
Relevant Company			
*	535352782	<a href="#">More Info</a>	
*	536153085	<a href="#">More Info</a>	
*	538646332	<a href="#">More Info</a>	
*	539171048	<a href="#">More Info</a>	
*	537789102	<a href="#">More Info</a>	
*	536657584	<a href="#">More Info</a>	
*	535682084	<a href="#">More Info</a>	

 Alerts LOGOUT

# Corporate Profile

to show basic corporate info

# Risk Analysis

to spot potential corporate risks

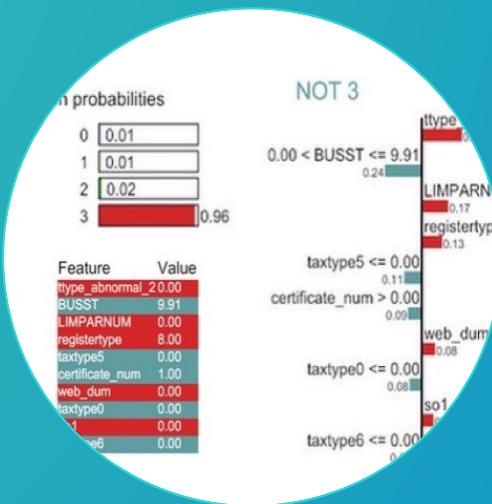
# Watch List

to save for future ref & alerts

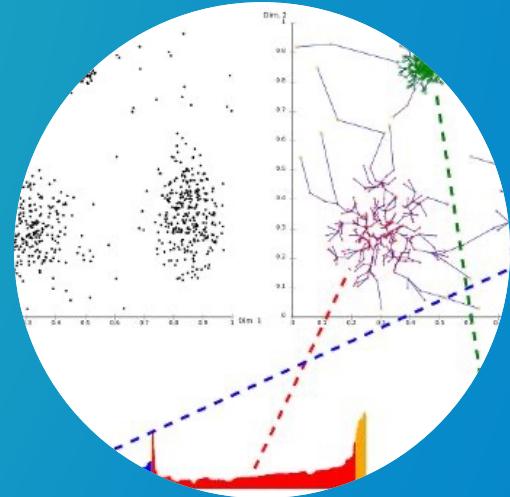
# Risk Analysis



Risk Type  
by ML (LightGBM)

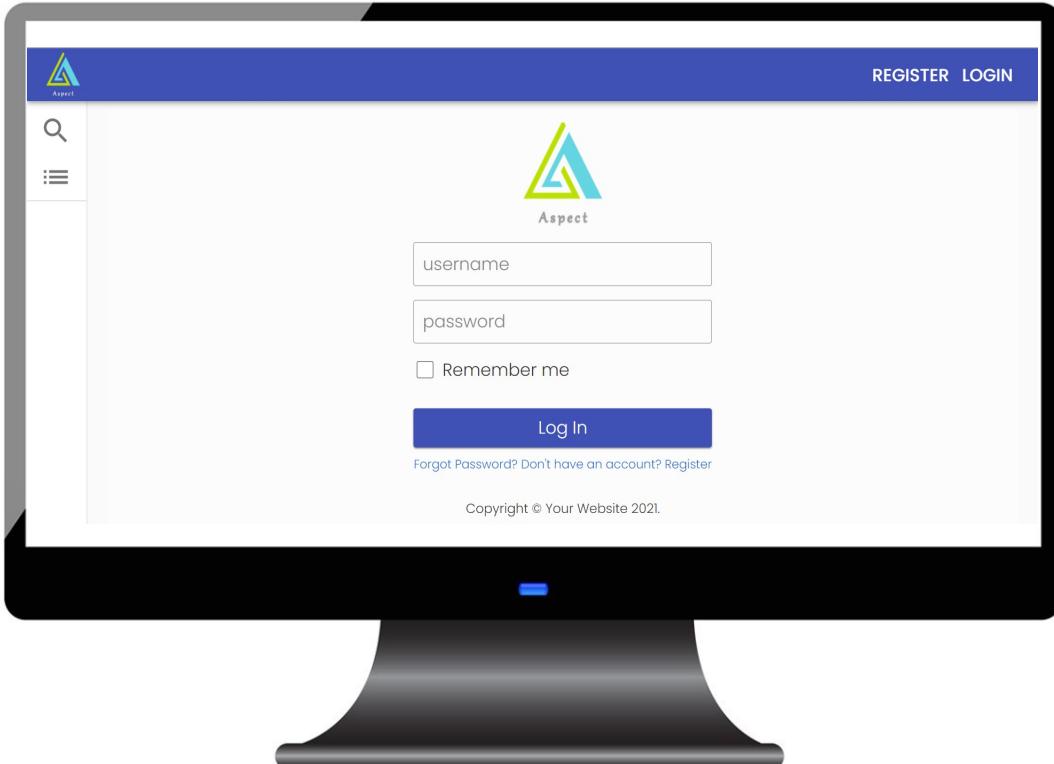


Risk Explanation  
by XAI (LIME)



Relevant Risky Firms  
by Clustering (OPTICS)

# Prototype Demo



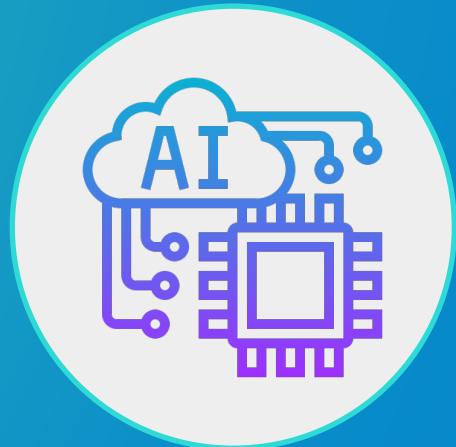
# Why Aspect?



Backend  
**High Performance**  
System Architecture



Frontend  
**Concise UI**  
User-Friendly UX



AI  
**Cutting-edge algo**  
Reliable Results

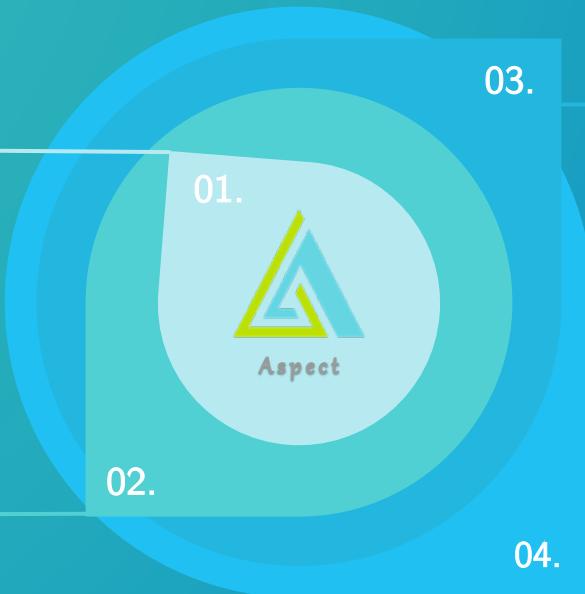
# Reliable Results

## Interpretable model

- ✓ Monetization of data and prediction models &
- ✓ Transparent evidence of model performance

## Industry-wise Comparison

- ✓ Targeting the **similar firms** by unsupervised machine learning



03. Risk Visualization
- ✓ Easy-understanding of the **risk components** even for **outsiders**

## Concise Evaluation

04. Concise Evaluation
- ✓ Overall picture of firm's financial situation & potential risk level

# Winning Cycle



## Regulators



AI-accelerated financial

**surveillance**

& risk visualization

- ✓ Clear to target risk firms and derive due intelligence



- Concise **evaluation** of company's overall picture & potential risk
- ✓ Efficient to pick the wanted companies by comparison with similar firms



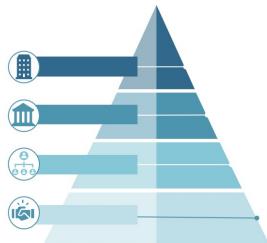
## Investors



- Access to industry-wise comparison & **explainable** risk prediction

- ✓ Suggestable for internal risk aversion

# Future Plan



## User Hierarchy

Investors, Regulators & Managers  
should proceed to different KYC  
before entering the data pool.



## Business Network

Promote sound economic development &  
connect business with funds!



## AI Optimization

Explore better AI models  
with higher accuracy &  
more efficient response.

# Our Team



**Bill Chen**  
Year 2, FinTech



**Hess Lee**  
Year 2, FinTech



**Susan Liao**  
Year 2, FinTech



**Mengling Liu**  
Master, eCOM&iCOM



**Johnny Cheung**  
Year 2, Computer Science



**Rachel Hua**  
Year 2, Quantitative Finance



# Thank You



It's an open source project!

/SWUFE-labs/2021--chengdu80---fintech-contest-hku



# Thank You



Visit our GitBook page for detailed documentation!

<https://fintechendeavour.gitbook.io/aspect/>

