

Sentence similarity models to develop a new risk appetite tool

MARKEL



Outline

Study Case

Sentence
similarity
models

DEMO

Study Case: The Risk appetite tool

The current business & economic environment are everchanging and so is an insurance's tolerance toward certain types of risks.

An insurer's appetite might expand to many new industries as the company is growing or limiting to certain industry classes during time of recession.

There are many types of industry classifications such as SIC, NAIC, IBC, ISO, with average of over 1000 subclasses.

What is the best way to inform our brokers & clients about our latest underwriting appetite? How do our brokers know which industry classes are in our appetite?

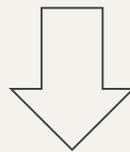
Monthly emails? Weekly Newsletters? Or Daily phone calls?



Sentence similarity models

Markel has developed an **AI driven Risk Appetite tool**

- Train on several industry code such as SIC, NAIC, IBC, ISO
- Use of transformer based on BERT
- Measure probability based on cosine similarity
- Map back to Internal Risk Appetite (not shown in this presentation)



- Free text description of the business to avoid error in selecting the industry code
- Can be easily improved using newer transformer
- Can be easily retrained if new data available

DEMO

Please type the description of the business

enter description

manufacturing

Submit



Please type the description of the business

enter description

I sell product as fish and shells as retail

Submit



Please type the description of the business

enter description

company that provide softwares healthcare

Submit



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THANK YOU

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