Team Members

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Proposal 1

Overview

Overall, objective is to provide help to judges to make the decisions with reference to the previous cases and their decisions and help them to categories the case.

Goal

Generate verdict for jury with reference to previous cases and classify the case category.

Objectives – How to achieve the goal

- First step is to clean the data
- Transform the data
- Building Model
- Make predictions or generate the text

Dataset Description

We have dataset already available on Kaggle which contains the features including Cases description, decision made on cases, and category of the cases.

Research Papers

[JUSTICE: A Benchmark Dataset for Supreme Court's Judgment Prediction | Papers With Code](#)

[A Survey on Legal Judgment Prediction: Datasets, Metrics, Models and Challenges | Papers With Code](#)

[The survey: Text generation models in deep learning - ScienceDirect](#)

ML Model and Techniques:

LSTM : It is a type of recurrent neural network that can model long-term dependencies in text and generate high-quality text with a specific style.

Software, tools, system architecture and components anticipated:

Jupter Notebook

References:

[Supreme Court Judgment Prediction | Kaggle](#)

Proposal 2

Idea: Predict the failure of company

Goal – one sentence that reflects the purpose of your proposed project:

we want to study the behaviour of companies during a bankruptcy in order to help companies better manage their portfolio, anticipate risks and avoid crashes.

References:

https://www.efmaefm.org/0efmameetings/efma%20annual%20meetings/2006-Madrid/papers/772538_full.pdf

https://reader.elsevier.com/reader/sd/pii/S0377221722005495?token=34078D606C13A127197D4A BD5CAFF73D4A4F7B20E3B19ACD9A60C352B33F07EF3F20554744865A30047418D5A6A90FCD&origi nRegion=eu-west-1&originCreation=20230424194028

Objectives – how you plan to achieve the goal:

- First of all, we have to fix our features and then do the data collection.
- To fix features, we have to choose the important ratios and speak with some experts in finance.
- Choose companies that had failures in order to identify the factors
- Understand the impacts of crisis on companies like covid

Dataset description:

We are going to extract data from different web sources using data mining as now we don't have dataset.

For example, we are going to collect data that describes poor financial management in each company that we are going to choose.

We need also geopolitical information because Companies that operate in regions that are affected by political instability or other geopolitical risks may face significant challenges to their operations and financial performance.

unexpected events: like covid 19

Knowledge skills required

- linear regression
- Statistical techniques
- finance knowledge (like how to calculate ratios/cashflows/turnover/...)
- Hunting data
- Data cleaning
- NLP techniques
- deep learning models like CNN and MLDA

Proposal 3

Topic: Driver Behaviour.

Goal: Reducing the rate of accidents, and drivers' lives. Better fuel economy and more intelligent driving guiding systems or coaching systems.

References:

https://www.sciencedirect.com/science/article/abs/pii/S0001457519307377#preview-section-recommended-articles

Objectives – how you plan to achieve the goal:

Identify the causes of accidents and inefficient driving.

Utilize machine learning algorithms to create prediction models.

Create smarter, safer automobiles that include advanced driver assistance features.

Continuously test and improve models and systems in response to comments and results.

Knowledge skills required:

-Collecting data (not available –need permission from site)

-Data cleaning

-Data analysis

-Gaussian mixture model (GMM) related to the article in reference.

-decision tree.