金融业与知识图谱

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得写个250-500字的abstract 简单实现了，，，，，，能够对后续进行，，，有很好的价值。

## Introduction

Explain your chosen topic and why it is important for your field.

在这个项目里，我选择了图数据结构，并且阐述在传统金融行业面临的困境。

通过图结构在金融行业的垂直领域进行深耕，能够挖掘出很多我们无法在普通关系性数据库发现的细节。编织出一张知识图谱，辅助金融行业的高风险管理。

## Literature Review

### 讨论知识图谱的进化发展历程（简短）

### 讨论金融系统（传统银行）里进行数据分析的复杂性和重要性（简短）

### 讨论知识图谱在金融行业的应用（重点）

## Example : Simple Shareholding Graph System

### Description

### Data source

person can hold a corp in {share} % person can be relative with another person corp can hold another corp in {share} % corp can be a branch of another corp person can be as a role of a corp

### Code

#### Data preparation

# Python code to illustrate the example  
class Graph:  
 def \_\_init\_\_(self):  
 self.adjacency\_list = {}   
  
 def add\_vertex(self, vertex):  
 if vertex not in self.adjacency\_list:  
 self.adjacency\_list[vertex] = []  
  
 def add\_edge(self, from\_vertex, to\_vertex, weight=0):  
 if from\_vertex in self.adjacency\_list:  
 self.adjacency\_list[from\_vertex].append((to\_vertex, weight))  
  
 def remove\_edge(self, from\_vertex, to\_vertex):  
 if from\_vertex in self.adjacency\_list:  
 self.adjacency\_list[from\_vertex] = [t for t in self.adjacency\_list[from\_vertex] if t[0] != to\_vertex]  
  
 def remove\_vertex(self, vertex):  
 self.adjacency\_list.pop(vertex, None)  
 for v in self.adjacency\_list:  
 self.adjacency\_list[v] = [t for t in self.adjacency\_list[v] if t[0] != vertex]  
  
 def get\_edges(self, vertex):  
 return self.adjacency\_list.get(vertex, [])  
  
 def update\_edge(self, from\_vertex, to\_vertex, new\_weight):  
 if from\_vertex in self.adjacency\_list:  
 self.adjacency\_list[from\_vertex] = [(v, w if v != to\_vertex else new\_weight) for v, w in self.adjacency\_list[from\_vertex]]

## Conclusion

这种图结构出来的知识图谱可以运用到金融行业里，比如说进行客户分群，精准提升金融行业

## References