Qiangqiang Liu(刘强强)

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Education

Peking University 2016.09-2019.07

- Research direction: data mining, machine learning, visualization and visual analytics •
- Major ranking: 2/18. 2018 Shenzhen Stock Exchange Scholarship of Peking University. 2017 Suzhou Industrial Park Scholarship of Peking University. 2017/2018 Postgraduate Special Scholarship. Second Prize (leader) in 2018 BDC Blockchain Stable Economic Model Contest.

2012.09-2016.07 Anhui University (211)

- Major ranking: 2/122, average score: 90.76. •
- 2016 Outstanding Undergraduate of Anhui Province, 2015/2014/2013 National Encouragement Scholarship. •

Work Experience

2019.07-Now

- Currently working in the AI department of WeBank, I am mainly responsible for visual analysis of bank risk control, including pre-loan credit decision, in-loan risk control strategy monitoring, post-loan risk control strategy performance analysis, strategy upgrading, risk portrait analysis of stock data, and data value mining.
- Three academic papers have been accepted and 12 patents have been published.

Internship Experience

2017.09-2018.08 **Guanghua School of Management, Peking University Blockchain Research Assistant**

Served as the research assistant of Professor Xiaolei Liu, director of the department of finance, responsible for the • research of blockchain industry, relevant data crawling and analysis.

Project Experiences

2020.06-2020.12 **Bank Credit Risk Rating System**

- The credit rating of a bank is related to the bank's credit line. Each bank has dozens of business-related indicators. • The traditional rating method is usually adjusted manually based on the expert experience of experts who have worked in the industry for many years, which consumes a lot of time and strong subjectivity.
- Rating is a clustering and sorting problem. By adjusting different weighting schemes, it helps group users to • compare the results of different weighting schemes. Through the user manually adjust departmental bank rankings, use rankSVM to reverse the weighting scheme to make the results closer to the user's psychological expectations.

2020.02-2020.05 **Intelligent Commuter Bus Route Planning System**

- According to the individual needs of passengers, the system collects the common needs, providing end-to-end • public transportation services in the form of shared vehicles for people with similar travel time, starting points and destinations, service requests and demand levels.
- Extracting the user's dynamic travel patterns and commuting requirements. Using direction clustering to determine • the direction of the shuttle bus routes and use station clustering to determine the shuttle bus station. Selecting different shuttle bus setting plans to compare, automatically making the timetable for the shuttle bus.

2019.07-2020.01 **Smart Retail Warehouse Location System**

- For the retail logistics industry, the warehouse location is a top-priority issue for companies, and the choice of • warehouse address will greatly affect the efficiency and cost of the companies.
- Users can interactively compare the distance and time cost of different warehouses at different delivery departure • times, helping group users choose the warehouse that meets the requirements and costs relatively low on distribution logistics. Thus, it helps the group plan the delivery departure time, so they can deliver the goods to the merchants in time with less logistics cost.

2018.12-2019.06 Modeling and Representation of Highway ETC User Portrait

Project Leader

Project Leader

Project Leader

Webank (Tencent)

Software Engineering



Master

Bachelor

Project Leader

Computer Science and Technology

Data Science

• In cooperation with the Road Network Center of the Ministry of Transport, based on the data generated by ETC (Electronic Toll Collection), I proposed a set of highway user profile analysis models which analyses the customer image of the bus and trunk owners including the metrics of basic attributes, user consumption attributes and user transit trip rules. Also, I proposed vector representation method of the trajectory of ETC users in highway network combined with temporal and spatial information. The vector representation of the trajectory is applied to the classification and clustering of passenger/truck vehicles.

2018.07-2018.07 BCH Transaction Analysis System

- Participate in the DoraHacks x BCH top blockchain marathon. There are nearly 100 contestants from enterprises and universities in the contest. Our team consists of 6 people. Our work "BCHVis" analyzes transaction patterns by merging transaction addresses.
- "BCHVis" won the first place with 17 votes (10 votes for the second prize and 9 votes for the third prize). I am responsible for the realization of most functions of the transaction analysis system.

2016.10-2018.05 Air Traffic Management Visual Analysis System

- In cooperation with Boeing China and North China Air Traffic Management Bureau, based on aircraft waypoints, aircraft trajectory data and A-CDM (Airport Collaborative Decision Making) data, I displayed and analyzed aircraft flight status, assisting in analyzing aircraft flight patterns and delays.
- I responsible for crawling traffic trajectory data, using MongoDB to store data, designing data interfaces, designing and implementing data analysis, cleaning (Pandas), server-side (tornado) and front-end interactive interfaces (d3js, leaflet).

Researches

[1] Qiangqiang Liu, Quan Li, Chunfeng Tang, Huanbin Lin, Xiaojuan Ma, Tianjian Chen. A Visual Analytics Approach to Scheduling Customized Shuttle Buses via Perceiving Passengers' Travel Demands. Proceedings of IEEE VIS 2020 (Short Paper), Accepted.

[2] Qiangqiang Liu, Quan Li, ChunfengTang, Huanbin Lin, Zhenhui Peng, Zhiwei Li, and Tianjian Chen. Visual Analysis of Car-hailing Reimbursement Data for Overtime. Proceedings of EuroVis 2020 (Posters), Norrkoping, Sweden.

[3] Quan Li, **Qiangqiang Liu**, Chunfeng Tang, Zhiwei Li, Shuaichao Wei, Xianrui Peng, Minghua Zheng, Tianjian Chen, and Qiang Yang. WarehouseVis: A Visual Analytics Approach to Facilitating Warehouse Location Selection for Business Districts. Proceedings of **EuroVis 2020**, Norrkoping, Sweden.

[4] Lu Feng, **Qiangqiang Liu**, Chenglei Yue, Nan Ma and Xiaoru Yuan Air Traffic Management Visual Analytic System ChinaVis 2018, Shanghai, China. July 26-18, 2018. **Honorable Mention Award**.

[5] Chufan Lai, **Qiangqiang Liu**, Lu Feng, Chenglei Yue, Xi Chen, Yang Hu, Zhanyi Wang, Pengju Teng and Xiaoru Yuan Interactive and Collaborative Visual Analysis on Traffic Sensor Data Proceedings of IEEE Conference on Visual Analytics Science and Technology (VAST), Poster, 2017. **Multi-Challenge Award for Combining Automated and Visual Analytics**, IEEE VAST Challenge.

[6] Lijing Lin, Min Lu, Guozheng Li, Chufan Lai, Ruike Jiang, **Qiangqiang Liu**, Xiaoru Yuan. Visual Analysis for Wildlife Preserve based on Muti-systems. In Proceedings of IEEE Conference on Visual Analytics Science and Technology (VAST), Poster, 2017.

[7] Guozheng Li, Shuai Chen, Qiusheng Li, Zhibang Jiang, Yuening Shi, **Qiangqiang Liu**, Xi Liu, and Xiaoru Yuan. Visual Analysis for Multi-Spectral Images Comparisons. Proceedings of IEEE Conference on Visual Analytics Science and Technology (VAST), Poster, 2017. **Multi-Challenge Award for Combining Automated and Visual Analytics**, IEEE VAST Challenge.

[8] Yu Zhang, Guozheng Li, Chufan Lai, **Qiangqiang Liu**, Shuai Chen, Lu Feng, Tangzhi Ye, Siming Chen, Ren Zuo, Zhuo Zhang, Zhanyi Wang, Xin Huang, Fengchao Xu, Li Yu, Shunlong Zhang, Qiusheng Li, Xiaoru Yuan. STAD-HD: Spatial Temporal Anomaly Detection for Heterogeneous Data through Visual Analytics. Proceedings of IEEE Conference on Visual Analytics Science and Technology (VAST), 2016. **Outstanding Comprehensive Solution Award**, IEEE VAST Challenge.

[9] Liu Qiangqiang, Yu Liqing, Zhao Peng, Liu Huiting. Image retrieval system based on mobile platform [J]. Computer Technology and Development, 2016, 26(1): 1-12.

Personal Informations

- **Previous Positions:** Deputy secretary general of Peking University blockchain club. Graduate school monitor from 2016 to 2019. Undergraduate school monitor from 2014 to 2016, Undergraduate school debate team vice leader in 2012.
- Skills: Master in Python, JavaScript, C++ and SQL.

Project Leader

Project Leader