

The Data Mining Contest

Motivation, impact, and expected outcomes

Recent advance in mobile techniques enable users to trade stock funds online and share their location information in LBS and MFS provided by various parties, such as Uber and Alipay. Meanwhile, those providers accumulate huge amount of user behavior data to help improving the quality of their services. Due to the promising business value, a few LBS and MFS startups, e.g. DiDi/Alipay/Uber, have been receiving investment of billions of dollars in the past two years.

Machine learning, as the most powerful tool for data analysis, plays an important role in MFS and LBS businesses. A sequence of work has been done to improve recommendation performance of LBS and MFS. On the other hand, many service providers set up their own research teams/institutions that apply machine learning technique to boost their businesses.

The Alibaba group and the Ant Financial Services Group will provide datasets containing users' e-commerce and brick and mortar shopping history, stock fund purchase records to the machine learning community. We expect brilliant solutions for the competition will be developed, and hopefully the released datasets can inspire the research in related areas, such as recommender system, transfer learning, ranking or social networks.

Problems Abstract

The Alibaba Group and the Ant Financial Service Group aim to better serve the small business. In particular, the Koubei platform under Ant Financial connects the customers and the merchants (mostly restaurants) both online and offline. One of the problems the merchants are facing is that they have no idea how many customers will visit their shops in the near future or during certain periods of time in the future. If they can estimate the number and the distribution accurately, they can make better preparation for the inventory, the working schedule, and even the marketing strategy etc. By leveraging customers' payment history via Alipay, as well as other relevant information like holiday events and coupons, we wish to offer estimates of customer flow for the merchants to help grow their business better.

Infrastructures

Tianchi platform (<http://tianchi.aliyun.com/>):

We plan to use the data competition platform Tianchi developed by aliCloud (part of the Group). In 2015 and 2016, 18 competitions with a total award of 661,000 USD have been successfully hosted on Tianchi, which gathered 35,339 players from 42 countries and regions. This platform is well developed, tested and can be tailored to this contest as needed.

Tentative Competition Schedule

January 9 - March 15

Website URL

The competition webpage has been released at <http://tb.am/s0a3o>

Organizers

Dr. Xiaojun Qian is a cross-disciplinary player in both finance and machine learning. He got his B.S. and Ph.D. from Fudan University and the Chinese University of Hong Kong, respectively. He is now a senior expert in the AI Department of Ant financial services group. Before joining Ant AI, He co-founded a proprietary trading shop in 2015. He was a senior researcher in Baidu Research, a senior research scientist in Nuance Communications, and a quantitative trading associate in Credit Suisse.

Mrs. Yiting Wang is the leader of Tianchi platform. She specializes in organizing and promoting data mining contest.

Dr. Yuan (Alan) Qi is a vice president and the chief data scientist of the Ant Financial Services Group. He works on large-scale machine learning and Bayesian inference. He obtained his PhD from MIT Media Laboratory in 2005 and then worked as a postdoctoral associate at MIT Computer Science and Artificial Intelligence Laboratory until 2007. He joined Purdue University in 2007 and was tenured in 2013 as associate professor in Department of Computer Science and Department of Statistics. He has been a visiting scholar at University of College London, Duke University, SAMSI, Brown University, Columbia University, given numerous invited talks at universities and conferences, and collaborated with researchers in IT, financial and pharmaceutical industries on machine learning and data analytics problems. He is an associate editor of Journal of Machine Learning Research and served as area chair of International Conference on Machine Learning. He has received Microsoft's Newton Breakthrough Research award and USA NSF Career award.

Bibliographic references

Tianchi Competition Platform: <https://tianchi.aliyun.com/>

Alibaba group: <http://www.alibabagroup.com/>

Ant financial services group (in Chinese): <http://www.antgroup.com/>