

Qiangqiang Liu(刘强强)

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Education

2016.09-2019.07	Peking University	Computer Science and Technology	Master
		<ul style="list-style-type: none">Research direction: visualization and visual analytics; trajectory visualization	
2012.09-2016.07	Anhui University	Computer Science and Technology	Bachelor

Project Experience

2016.10-Now	Air Traffic Management Visual Analysis System	Leader
	<ul style="list-style-type: none">In cooperation with Boeing China and North China Air Traffic Control, our visual analysis system can display and analyze the flight status of the aircraft. Our data are based on flight trajectory data and A-CDM (Airport Collaborative Decision Making) data.Responsible for parallel crawling of flight trajectory data; designing and implementing of data storage using MongoDB; designing data interfaces; cleaning data (Pandas); setting up server side (tornado).The project achievements are appreciated by Boeing Europe and they will to provide global flight data.	
2016.05-2016.08	Bitcoin Transaction Visualization	Leader
	<ul style="list-style-type: none">Implementing Bitcoin real-time/historical trading system. By merging the trading addresses, we can see some trade patterns clearly.Using Python to crawl bitcoin historical transaction data about 320G. Improve FR (Fruchterman-Reingold) layout algorithm to represent the trading network.	
2015.12-2016.03	Fake Base Station Visual Analysis System	Core Member
	<ul style="list-style-type: none">Cooperate with the 360 Skyeye team to develop a visual analysis system based on the mobile phone malicious SMS records and the log of the mobile phone connecting to the base station. Our system can analyze the movement trajectory of the fake base station and help polices to search fake base stations.Responsible for the implementation of the core algorithm; using the improved DBSCAN clustering algorithm to remove the noise data; reconstructing the path of the malicious message; binding the calculated path to the real road network.The achievements of project were reported by China Central Television (CCTV), helping Beijing police capture more than 160 criminals.	

Research Projects

2017.07-2017.09	Interactive and Collaborative Visual Analysis on Traffic Sensor Data	Core Member
	<ul style="list-style-type: none">Analyzing trajectory data behavior patterns; exploring trajectory abnormal behaviors; supporting multi-user cooperative exploration analysis.Awarded “Challenge Award for Combining Automated and Visual Analytics” in VAST Challenge 2016. Published in 2018 IEEE VIS Poster.	
2016.07-2016.09	Spatial Temporal Anomaly Detection Visual System	Core Member
	<ul style="list-style-type: none">Real-time monitoring of environmental monitoring data, trajectory data of the sensor, abnormal abrupt events by extreme values, etc., and interactive exploring of the patterns and abnormalities of the events.Awarded “Outstanding Award” in VAST Challenge 2016. Published in 2017 IEEE VIS Poster.	

Personal Information

- Scholarship & Award:** Special Scholarship of Peking University (2017), Outstanding graduate student (2016), Outstanding student scholarship (2015/2014/2013)
- Skills:** Experienced in JavaScript, web visualization (d3js), data analysis (python), web framework(Vue, Backbone)
- Interests:** Hiking, billiards