Curriculum Vitae

Name: Rong Cao   **Date of Birth:** 1995-11-17
Mobile: 17621535725   **E-mail:** kollyull@163.com
Country: China
Graduate School:
  Shanghai Jiao Tong University (Master)   Central South University (Bachelor)
GPA (Rank):
  Master: 3.96/4 (1/17)   Bachelor: 91.88/100 (1/117)

Education Experience

2017.09-present	**Shanghai Jiao Tong University (SJTU)**
	Master (Recommended graduate without examination)
	Major in traffic and transportation engineering
	Main curriculums:
	Computational methods; Optimal estimation and systematic modeling; Application of computer in transportation; Mathematical statistics
2013.09-2017.06	**Central South University (CSU)**
	Bachelor. Major in traffic and transportation.
	Main curriculums:
	Computer Programming (C++); Database Application and Practice (SQL Server); Mathematical Modeling with MATLAB; Intelligent transportation system; Engineering Drawing; Probability and mathematical statistics.

Skills

Computer Skills: Master the use of Python, MATLAB, R, SPSS, GIS, SQL Server, etc. to analyze data.

English Level: TOEFL:104, GRE:155+160.

Others: Piano level 8/10 (Chinese amateur level), Cucurbit flute level 10/10(Chinese amateur level), Chinese traditional dance level 8/13(Chinese amateur level)

Competition projects

Project Name: Marine oil spill monitoring platform based on UAV
Period: 2018.09-2018.10
Project Description: Based on the UAV platform, HD PTZ camera and VOCs sampling equipment, this platform can monitor marine oil spills in real time. In response to the different situations of marine oil spills, three different search and monitoring algorithms were proposed to achieve targeted monitoring.
Responsibility Description: Data Analysis and Processing
Competition Results: National 1st Prize

Project Name: Slow travel route design based on distributed sensor network with the consideration of air quality
Period: 2018.10-2018.11
Project Description: We proposed an APP to design the route for people walking, riding bicycle, and running outdoors with the least air pollution expose based on the real-time air pollution data collected by the sensor network.
Responsibility Description: Data processing, calculation of pollution distribution map, extract the road pollution data, path planning
Competition Results: National 4th Prize

Project Name: Management system of the train bunker
Period: 2018.10-2018.11
Project Description: We proposed a management system of the train bunker for the crew to achieve a stable collection of passenger ticket information, dynamic management of bunker and passengers.
Responsibility Description: Database design, interface design
Competition Results: 2nd Prize inside school

Research Work

2017.9	Zhong-Ren Peng, Bai Li, Mengyi Jin, **Rong Cao**. Vertical Distribution of Atmospheric VOCs Based on Unmanned Aircraft Controlled Sampling Technique. 9th National Environment Meeting in China
2018.8	**Rong Cao**, Fine-scale spatial patterns of urban $PM_{2.5}$ concentration based on air monitoring sensor network and spatiotemporal series data mining approach, first Joint International Network in Geoscience (JING) Meeting on Atmospheric $PM_{2.5}$, 2018.8.
2019.2	Bai Li, **Rong Cao**, Zhanyong Wang, Ruifeng Song, Zhong-Ren Peng, Guangli Xiu, QingyanFu. Use of Multi-Rotor Unmanned Aerial Vehicles for Fine-Grained Roadside Air Pollution Monitoring. 2019 Transportation Research Record Journal of the Transportation Research Board, 2019.2
2019.11	**Rong Cao**, Bai Li, Zhanyong Wang, Zhong-Ren Peng, Shikang Tao, Shengrong Lou; Using Distributed Air Sensor Network to Investigate The Spatiotemporal Patterns in $PM_{2.5}$ Concentrations, Transportation Research Board 99th Annual Meeting.
2019.11	**Rong Cao**, Bai Li, Zhong-Ren Peng, Hongdi He; Vertical and Horizontal Profiles of Particulate Matter and BC Near Elevated Highway Based on Unmanned Aerial Vehicle Monitoring, Transportation Research Board 99th Annual Meeting.

Awards

Nov. 2019	Tung OOCL Scholarship
Nov. 2018	1st Prize in the 1st "Energy, Intelligence, and Future" National Innovation and Entrepreneurship Competition for college students
Sep. 2018	2nd Prize in National Mathematical Modeling Contest for Graduate Students in China
Dec. 2018	4th Prize in China's (Xiaoguwei) "Internet + Transportation" Innovation and Entrepreneurship Competition
Jun. 2018	Tung OOCL Scholarship
Nov. 2017	3rd Prize in China's (Xiaoguwei) "Internet + Transportation" Innovation and Entrepreneurship Competition
Jun. 2017	Outstanding Graduates in CSU
Apr. 2016	2nd Prize in 11th Competition of Transport Science& Technology in CSU
Year 2015-2016	Excellent League Member in CSU
Year 2015-2016	Excellent Student in CSU
Year 2015-2016	Outstanding Scholarship in CSU
Dec. 2015	2nd Prize in the 4th Contest On Logistics Design in CSU
Year 2014-2015	National Scholarship in China
Year 2014-2015	Outstanding Scholarship in CSU
Dec. 2014	Silver Award in the 1st Invitational Contest in Kumning, Yunnan province
Year 2014-2015	Excellent Student in CSU
Year 2014-2015	Excellent League Member in CSU
Year 2014-2015	Outstanding Dormitory in CSU
Year 2013-2014	Excellent Student in CSU
Year 2013-2014	2nd Scholarship in CSU

Social and Volunteer Activities

2013-2014	Joined the Propaganda Department of the China University Student Undertaking-founding Web associate and became a journalist, published many news releases in the website.
2013-2015	Joined the nonprofit association in CSU called "Youzhizhe Aixin Association" and became the leader of the propaganda department.
2014-2015	Joined the Propaganda Department of the Volunteer Service Instruction Center of the Youth League Committee in CSU, and published many articles in the official website of the Committee.
2015-2016	Became the Publicity Secretary in the class, in charge of the propaganda job for the class.
2017.8-9	Volunteer in the Summer Mechanics School at the school of Naval Architecture, Ocean & Civil Engineering in SJTU.
2017.12	Voluntarily participated in the chorus organized by the school.
2017-2018	1. Joined the Propaganda Department of the Graduate Student Union in SJTU, and published many article on the WeChat platform of the Union. 2. Joined the Informatization Promotion Office in SJTU, responsible for research and development of the informationization process of SJTU.
2018.6-8	During the summer vacation, we visited Chongqing and Chengdu, and studied the economic growth effect of market brought by the construction of high-speed railway in China.

Self Discription

I have always adhered to good study habits, and have a good self-learning ability and attitude. My GPA is the first place in our major both in bachelor and master, and I have received various scholarships. In addition, I have a strong sense of responsibility and team spirit. After obtained my undergraduate degree at CSU major in traffic and transportation, I was recommended as a postgraduate student without the test, so I entered SJTU and start to investigate the relationship between traffic and air pollution. During my postgraduate studies, I still maintained my attitude towards study, and focused on practice and applied theory to solve practical problems. Till now, I have finished three research papers in the past two years and these articles are under review in different journals. The era of big data has arrived. How to use big data to solve various problems in real life is a direction that I am very interested in. Therefore, I intend to continue my Ph.D. study and the main direction is big data analysis. During the master's degree, I tried some big data analysis techniques and was very interested. A paper has been written using the time-series clustering method and is currently under review as mentioned before. In addition, I also learned Python, R and other data analysis languages, and is still learning knowledge in the machine learning aspect, hoping to further develop in this area in the future.