

1. 1Future plan

Considering about my future plan, I have mentioned that I want to optimize Chinese inefficient management system in supply areas. Therefore, I hope to conduct research on operations management focusing on algorithms and its applications in industry,

To be honest, I used to pursue dreams of theoretical management model, however as I grow up, I found that theoretical foundations will be of no use without actual applications. While putting the model into practice in real business, we could affect the society widely by eliminating the cost and the time and producing more products. Furthermore, during the research program and internship, I understand that the development of big data and machine learning made it possible to realize the system with the help of mathematics and computer science.

Before that, I hope to apply in the graduate program to continue my studies and pursue my academic careers. These experiences will be essential when I focus on management optimization in reality.

I think it is possible if I keep to the schedule step by step.

2. Future focus on the management science

In brief, I want to focus on more concrete goal programming in supply chain and other areas when business make decisions. As I mentioned in the personal statement, I was motivated by the queueing and traffic system. How to judge the whole welfare of a system when individuals consider about themselves.

Management focuses on making the right decision from the strategic, tactical to the operations side. I show great interest in the designs of goal programming. Nowadays, business managers are dealing with different items such as cost, production and time. A supply of chain with clear goals and priorities could make the algorithms solvable. When faced with many things, what is the most important to consider and needs more energy devotion? Furthermore, the nowadays AHP and fuzzy mathematics in choice model are too general to serve for today's distinction decision-makings. That is what I also found when I did in research project to define people's travel goals in an order.

3. What do you think of the future of big data and artificial intelligence and your knowledge?

Big data came from humans ourselves with better sensory data collecting and processing system. As learnt from freshman seminar, it has 4V characteristics of volume, velocity, variety and value. They could be used to predict future behavior with recommendation systems and reduce choice costs. However, sometimes people are controlled by the driving data. They could be lost in the web around artificial world, which makes big data at a disadvantage.

Artificial intelligence is based on algorithms to simulate smart human brains. It combines knowledge from biological perceptions and computer science. By producing a high-side machine including robot and image process technology, it has gained widespread prevalence in varieties of areas such as medicine and electronics. However, some scientists cast doubt on their boundary with human beings in the future, since some ethic problems may occur. Although it could cause job alteration, with supervision by scientists and the government, the technology can increase people's welfare and efficiency.

In a nutshell, they are beneficial to humans' development. OR is the engine for AI and Data because it serves for people with better algorithms in time, memory and efficiency for loss function.

4. Courses impression

Probability and Mathematical Statistics

Have learnt before the theory but clearer now

Application-oriented calculators and cheat sheet application in economy and management, also lay foundation for research in Youth League Committee

Funny and deep knowledge wide perspective of modern statistics R software

Cover many subjects not mentioned in other departments

Data Structure and algorithms

Application and the thoughts not just codes with C that would be too difficult

Not focus only the data structure itself

Involving modern IT such as NP problem and artificial intelligence. Inspire me a lot about how to use it

Think about big data and its moral, technical aspect multi-dimension

Numerical Analysis

Forms of final scores: open problem, good TA

Different branches of math MATLAB beauty and future directions such as CG, PCG, Newton, Gaussian, Fourier and other methods for ML

Involving many senior students who are going to graduate

More like algorithms numerically and basically

Learn some optimization strategies as well as DSA in several stratum

Western civilization

Different dimensions about the all aspects of WC dancing, literature, philosophy

Habit of reading Decameron

Think it in a logical, rational but emotional way

Story-based and adventurous journey during the past 2000 years

5. Relationship with family and education

Mother and self-management

Father work in the bank

6. What do you want to do in Ross?

In my schedule, the first semester of my third year in the university is an essential period for specific orientation of academic operation research areas. Therefore, during my exchange life, I have planned to devote the majority of time to coursework and some research program if I could find. Some business analytics and Information System Design courses could be helpful for my future management studies to deal with the current of modern operation management. As I found in the website in their school, stochastic process and optimization methods are the mathematical courses I would like to choose as well as statistical learning to benefit and challenge myself. Also the time there would be a great chance for me to practice oral English with the environment.

Except for study, another significant thing is to do some research program so that I could take a close at the frontier of modern operation research. Based on my two years accumulated in Tsinghua, I believe I am capable of doing a great job and improving my application and theoretical level. This may lay a solid foundation for my future development.

If there is still some time, I am eager to travel around and visit some of my old friends in America. Communicating with them and enjoying beautiful sceneries would be interesting and relaxing.

If I was given this chance, I believe I can enjoy a meaningful time in Ross.

7. What is the most impressive part of Tsinghua University/ SEM college?

As for the most impressive part in Tsinghua University/SEM college, I think it is that I can always be surrounded by excellent people making acquainted in different associations and classes. Students work hard here and I can develop myself in such a competitive environment. Exchanging ideas with them is interesting. Also, teachers are very professional and experienced. They have deep insights to math, computers and management science, such as some courses directing my future. Some professors have charm of knowledge and research for science, which encouraged me to move on in my academic career.

8. Gain from school and university

Resources and atmosphere to step forward on the way to future dream

9. Judge yourself = WHY YOU

10. Academic topics: paper, professor and cultures in Michigan

Goal-based models for discrete choice analysis University of Victoria

It talks about hybrid mode in transportation and adding cognitive resources by the decision maker to impacts of the decision contexts. The Likert questions are used to measure the psychological variables. Use probability model decide users' decisions step by step. In this way the goal and the choice are well benefited. The abstract path diagram of a goal-based latent variable and choice model is interesting and clear to know users' goals considering factors of lifestyle, experiences and socio-economics.

Ye Yinyu talks about new thoughts and ideas practically. Research is related to ML

and DL greatly. Optimization should combine with reality to solve problems such as MDP and stochastic process. He loved sports and keeps a regular time in thinking.

11. Software and programming skills

How to apply them in real life and curriculum

Python (Internship) Java (Course and a chess with little AI)

C/C++ (word separating system with knowledge about graph theory and student management system simply)

R/SPSS (research program and data analysis)

MATLAB (Mathematical Contest in Modeling and Interdisciplinary Contest in Modeling) optimize and draw graphs to simulate

12. Internship

During my internship, we have to evaluate the data feature property to decide to leave it or not. This requires a lot of professional knowledge and lays foundation for future analysis and optimization. Whether the data is discrete or continuous, how much percent it is vacant and whether it is properly distributed mattered greatly. I consulted my seniors and my coworkers to figure it out. However, there remains much to be done due to my constraints of knowledge. Factors: the sum of premium, difference between purchase and actual price play an important role in deciding whether the behavior is or not.

We held a tutorial of data modeling using python in our department. About 20 employees in other departments sign up for the class. They do not have foundation of Python grammar but with knowledge about other computer languages such as C or Java. I was then assigned to illustrate the part of Python basics. The course emphasis is on the differences between languages and application in data processing such as modules of pandas. I feel it is really important to illustrate the cautions and differences in the learning in case employees would get confused.

C kernel (cost function)

SVM: it belongs to supervised learning to classify the data. It could be regarded as the generalized linear classifier to map the data into hyperplane space. The loss function

and kernel method as well as structural risk is of great importance to judge the model. Using the scikit-learn module we could readjust these parameters to achieve a better result.

Max-leaf-node max-depth n-estimator

RF: It is a bag of several decision trees, each of them contains a feature of data. The construction of forest is randomly relying on the feature selection. It can select several sample datasets from the original. The decision tree is simple if your feature means A, then you will go to the side of A. Therefore, it is also a supervised learning problem where in the model, the depth of tree and branches are of importance to judge the model. Sometimes the random state to start the process can change to achieve a better model.

The algorithms above usually deal with binary classification. However, the model could be generalized in the multi-classification problem.

13. Quantitative Research Department

I am the director of QRD and has been the leader of several research programs. I learnt how to divide a task into different parts and allocate each of them to my team members according to their different abilities. The whole idea of the project counts greatly too because it is the main component of the time series. Take my experience when conducting the General Education Reform report as an example. I divide the whole task into three parts on writing an organized report, data analysis and interviewing with other students. The report combined various elements after our joint efforts. Then the school said highly of our work and some of the changes have been put into practice. I am really proud of this. We hope to readjust the order and credits of some general courses due to the changing demands of modern society after receiving students' advice. In some courses, the scores given by different teachers have a lot in difference and that is a bit unfair to our students.

Enhance my Excel and SPSS ability to illustrate the results in a colorful way such as simple linear regression, two-test hypothesis and ANOVA. Highlight the main points of the pre and how to analyze problems when you are in the presentation.

Interesting Results of the program: English However, some courses teaching by English may encounter some trouble when teachers do not reach the level as expected.

Some students might be confused when they could not understand the main points because of professors' expressions, which is related to their studying motivations.

75% of students do not think their software skill performances meet the requirements according to the result, which deserves school's attention. From multiple linear regression, internship and research project could facilitate the software study better compared with office software.

Mid-term survey reports of SEM student organizations

It is an ordinary job each year to assess the performance of each department in student association. The problems drawn from the report are two. The first is that not many students would like to participate in social activities even filling in the questionnaire. It could be reflected the decreasing number of students are willing to join extra-curricular activities to serve the society which is very important. The second is that some departments are known to the students easily while some others are not, which requires these departments to expand its influence on students and provide students with more accessible resources to maintain its goal.

Survey Freshman students of the school:

We want to receive 100% sample of freshman students so it is impossible to use wjx. We design the questionnaires in paper and receive about 250 when they attend an activity. It took me great energy to convey the information to the statistic software and I learn the significance of VBA to help me. This job requires much patience and carefulness. Finally, I feel proud when I could illustrate the results clearly.

14. Academic Department

During my job in synthesizing the learning resources, I have to consult with senior students about their perceptions of several courses. It is an excellent thing to carry these experiences on to next in a more efficient way that is DROPBOX.

15. University study development center

Why I want to enter this department because I like to solve problems for people when they are in difficulties. I was once assisted in the workshop and I hope to pass on to influence more people. Besides, I want to enhance my communication skills of expressing something you know clearly.

My experience in the workshop is one of the precious memory that I always treasure. For the first time in my life, I stand on the point of helping and teaching others consistently on the duty of regularly one evening a week. In this process, although it was challenging at first because I may not involve in the role quickly. Sometimes they got confused because I could not state it clearly or slowly. It took me great energy to accustom the situation and express what I want to say step by step. At last, I feel proud and satisfied when the students can receive help and their problems could be answered by me.

16. Alma Mater (what do you learn from high school/Jiangsu Reform on education)

Pursuit of comprehensive development of students. Although it lies in Jiangsu, which experience fierce competitions in College Entrance Exam, it pays attention to students' mental health as well besides studies. Take my Chinese teacher for example. I gained various knowledge and read a lot of books from it. Furthermore, my communications skills when I am given a presentation enhanced a lot, which made me confident when I am in trouble later.

Jiangsu is the place of reforms in the country. Beginning in the 21th century, Jiangsu witnessed a systematical and continuing change in college entrance exam. Many students

17. SRT program(difficulties)

The most difficult part might be when I was assigned to read some papers and conclude the discrete travel selection model. For me at that time, the literature was a bit challenging because of hard vocabularies and terminologies. They were written by some famous mathematicians with understanding of choice and model. After several times, I still cannot get the point about that. However, I am not a person that easily gives up. So I ask my partners in the program and also professors leading this until I summarize the first model. In this way, my understanding about model and literature review enhanced a lot. Gradually, I could classify the difference between each and conclude the model more easily. Furthermore, I also experience the beauty of mathematical model and its application in people's traffic travelling.

18. English study

I believe I can handle the school work there. Because in our college, most major courses are taught in English. Therefore, I have adapted to the classes in English and textbooks in English versions. I have also grasped how to write articles and reports in English after so many course tasks. Besides, although my speaking skills are not good, I am taking oral English courses this winter and practicing how to communicate in English. So I believe English will not be a barrier for my study there.

19. How do you balance your time during a week?

After some failure and success experience during the first three semesters, I will schedule my time into different parts according to the importance and urgency usually such as course work, sports, social work and self-development. On the one hand, I used the time part divided by an hour each and the Excel visualization to illustrate the work. Although I feel a bit pressure when handling different extra-curriculum activities such as social and volunteer work at first, I found it more familiar organized all these matters in order after making schedules and handling everything in order. On the other hand, I will choose not to bear much work due to the constraints of my energy. Even something emergent happens, I, like many people in this university, have to stay up late to finish it. Of course, it rarely happens during two years because of self-management of time and care for health.

20. How do you choose major and second-major?

Major: Actually, I love my major so much. I select **Broad Automation and Industrial Engineering** because I show great passion in application in management and control of mathematics and physics was not my strength at that time. I used to like to plan to fit the conditions when going on a trip such as minimum money and most sceneries. Later, I know the significance role of big data and information played in today and China is going through a huge demand of increasing the efficiency of management to supply industry such as traffic and service departments. By combining those factors into modern optimization in operation research, I ask myself: why not come to ISIM also there exists researching sources here? This way could fit my dream as well as my

strengths today. This is one of best decisions I have made.

Second-Major: The reason for my choice is that I believe the study of mathematics could benefit my future and make me think in a reasonable way. Information systems, AI and operation management are greatly depended on math theory to build a framework of modern application. Take the neural network, a famous machine learning algorithm as an example. The mapping behind it has a great relationship with linear regression and special functions. Without the property of convex functions, the algorithm could not develop to today as AlphaGo.

Furthermore, I strongly agree with the beauty behind mathematical theory. The training of math is interesting and I enjoy the feeling of simplifying a tough problem into several parts. The choice could help me experience the different aspects of modern math, which is quite challenging but could help me deeply understand some regulations.

21. Why American and exchange options

National University of Singapore has high ranks in management science and related subjects. The country of Singapore is well-suited to students who are in pursuit of academic careers because it has a regular atmosphere of research and good and relaxing environment, which is good for doing research. Furthermore, the life there is similar to the United States and I can still enhance my communication skills and experience the cultural differences between countries.

Many Chinese students gain familiarity about cultures

Step for my future academic career in other countries

22. Why Ross and Carlson?

Carlson SIMILAR TO and high rank in business analytics

23. Competition experience

Admittedly, I do not intend to join in consultation and I think professional knowledge values greater compared with competitions. Because of time constraints when I am at school, I could not allocate too much time to competitions.

However, I participated in MCM/ICM to use math practically this winter. We use

the graph theory and PDE to illustrate the performances of humans and build a infection disease model who get infected by drugs in the United States. We processed data given by the authority and drew some particular patterns of change in number of drug cases. At first our data does not fit our model accurately, but then by our team's cooperation to add the distance differences between cities, it suits our model well. Finally, we gave some suggestions and wrote a 20-page paper for Americans to deal with drug trouble.

24. Practice activities

Cross-border Electronic Commerce

25. Hometown economy

My hometown is in the northern part of Jiangsu occupying the largest area. My hometown has beautiful sceneries with rivers. It was immersed in red history, which inspired us to move on. Its ranking level was in the middle of Jiangsu Province and ranked 34th in China. However, recently it encountered the lack of economy growth. A few years ago, automobile industry occupied greatly in the economy. However, the recession of automobile economy in DYK caused the whole welfare at a disadvantage. The distribution of city development has changed into the southern part because of the policies. In the meantime, our city has witnessed an increase in the environmental protection. We have clean water and air. And the sustainable resource could be a new point to the economic growth in the future because the social requirements of environment. There are also a great number of people entering this area. Well, that would be a great chance for my city to rely on the environmental protection.

Management of traffic and products in business especially

Queuing problem in the highway

Solution of viaduct in the management areas

inspire me to carry on with my dream of optimization in operational research

26. The variance of your grade between semesters

A bit lost in the second semester and great allocation to time and energy

Atmosphere and good roommates

courses in my own major

27. Judgment of the interview

I think I have expressed what person I am, why I want to apply for Ross and what distinguishes me from others to you, so in my opinion it is a successful interview in total. However, I also find out that I still cannot express all my thoughts to you in fluent English. Therefore, there's still a long way for me to improve professional knowledge and language at the same time.

28. Machine learning and how to explore in several steps

Define your goal of this data

Analyze the data and feature engineering to standardize

Train this kind of data using algorithms

Test cross validation to find a better

Evaluate

29. Reading and Sports

Books

Harry Potter is definitely the book I enjoyed the most. The whole story talks about Harry's life from his birth to his grown adulthood, mainly focusing on 11 to 17, which matches my age reading this series well. Accompanied by his friends, teachers and other people who assist him in difficulty, Harry finally experienced the truth of magic and triumphed over his old enemy, Voldemort. (In the storyline, my favorite character is the principal of Hogwarts, Albus Dumbledore. In the beginning, he used his intelligence and knowledge with great magic to instruct Harry to develop quickly. He taught Harry to bravely face the reality and rationally tackle problems forward. In the last part of the sixth book, he elaborately planned his death to make way for the final victory, which impressed me a lot when I found all the clues in the last book.) By reading the book, I learned love, loyalty and bravery from Lily, Ron, Black and Harry. It is also wonderful to speculate great friendship between Harry's father and his friends extending over the next generation.

Rope-skipping

The leader of that team is full of humor and taught us not to give up when my grades are not excellent. Sometimes some jokes are interesting to share. This way, although I came through many difficulties at first, I finally went on to keep challenging myself. Every night when I came to the Building C, it was a bit tiring but worth remembering.

Double swing

30. Difference between economy and management

Theory and application. Prof. Xiao Yongbo in OR

Firstly, they have different research goals. The aim of economics is to explain how social resources distribution and its impact on social development. However, the aim of management is to realize how to optimize some resources in an organization.

Secondly, the research perspectives have a lot in difference. The former is from the perspective of economical interests while the latter is due to several parts such as social needs and organization.

Thirdly, the contents of those two subjects differ a lot. Economics focus on more general topics such as consumers and market. Management tend to research on some specific organization resources.

Economics lay emphasize on policy and improvement while management depend on solutions of problems and it can be regarded as the extension of economics.

31. 退学生会（取舍、责任、喜好、不止）

32. 实习与研究的关系（实习是为了研究更广阔的平台和应用，为研究指明方向和补充知识短板，了解前沿理论和应用的区别；夯实理论基础）

33. 介绍清华（非常大和美丽的景点、历史；优势学科与特色；食堂；国际化）

34. 清华与密歇根的区别（氛围；导向；学生发展；对待学生态度）

说慢点，尽量咬词清晰

实战操作和团队协作能力