面试时，请每位学生准备5分钟个人介绍ppt（英文），

重点讲述个人学习科研经历，曾参与的课题，

或者曾看过的比较感兴趣的问题，或者正在进行的课题。

1. (Page 1, 2)Good afternoon, Prof. Wu. My self-introduction contains these four parts.
2. (Page 3)
   1. Primarily, I'd like to give a brief introduction of myself. I am a junior student who majors in Mathematics and Applied Mathematics at Beijing Normal University, with a double degree in Economics at Peking University. My GPA and rank is shown above, and double degree program does not provide ranking.
   2. Apart from that, I passed the selection of financial engineering summer camp organized by National School of Development and Baruch College, City University of New York(CUNY), and I completed the courses with an honor of distinction.
   3. I've also received some honors and awards which is shown in my resume.
3. (Page 4)
   1. Here are the courses I've taken.
   2. I divided them into four categories. Basic Math courses, Advanced Math courses, Economic courses, and programming related courses.
   3. I do believe that all of these will lay a solid mathematical and programming foundation for my future academic researches.
4. (Page 5)
   1. In the third part, I will talk about several academic projects I've participated before. The first one is related to economics, and the last three are related to computer science.
5. (Page 6)
   1. The first one is actually an empirical thesis. I went to a social investigation last summer vacation, which is called charls, and it contains a survey and lasts for 10 years, which gives us panel data to do the research.
   2. The motivation of this paper is to find out what kinda factors may affect the re-employment of urban elderly?
6. (Page 7)
   1. Based on the utility maximization and time selection model of a rational person, I transformed people’s re-employment choices into a convex optimization problem which can be solved by KKT method.
7. (Page 8)
   1. After establishing the model, I dealt with complex data by Stata, and utilized OLS regression to find out significant factors for the elderly re-employment intention.
   2. Here is one of the regression results.
8. (Page 9)
   1. The second project is related with reinforce learning. The background of this project is to design a smart grid.
   2. one part of this project which is done before is to Predict the dynamic change of each node.
   3. And we want to further detect that how can we coordinate the power allocation of abnormal node in the grid?
9. (Page 10)
   1. Our key point is to achieve the mutual optimization of both the NN and MCTS, which is transferred from AlphaGo Zero of combining the update of the value network and policy network and the result of Monte Carlo Tree Search into the coordination.
   2. As is depicted in the figure, the power distribution is a model needs to be optimized, then we can capture the anomaly, and use MCTS to simulate the results of millions of different allocations and the effects. then we can Optimize the parameters of power distribution model by the results of MCTS. Repeat the process of mutual optimization until the power supply balance is restored.
10. (Page 11)
    1. My third project is related to imitation learning.
    2. The Traditional reinforcement learning requires manual assignment of reward function, and IRL requires first perspective data, which does not conform to the real learning process and is hard to get.
    3. Thus, we want to solve these problems: HOW? HOW? HOW?
11. (Page 12)
    1. and we use ddqn, gan, and gru to solve these three problems separately.
    2. (省略2-4——we applied DoubleDQN to realize the automatic adjustment mechanism of the Agent's angle in order to obtain multi-angle observation data.
    3. Then, we utilize GAN (Generative Adversarial Networks) to complete the domain feature blurring technology from the first perspective to the third perspective; train a set of weights through the neural network to fuse the data involved in the multi-angle adjustment into complete information.
    4. Finally, to better identify the whole process behavior, GRU is introduced. By extracting all the state sequences, the deviation caused by the error of behavior judgment is weakened.)
    5. This project is under reviewing for nsfc, and I actually undertook the task of deriving the formula and writing the full text of the application.
12. (Page 13)
    1. the last part is about computer image recognition. it is a competition on kaggle.
    2. we use some classic models and NNs, and do great a lot in model fusion to get better accuracy.
    3. this is the final rank, we r about the first 2 %
13. (Page 14)
    1. The final part of this slides is related to the paper u recommend me to read. I will just give my brief ideas of the whole article and leave the details for further discussion.
    2. Counterfactual Inference is the main idea of this article and its motivation is to Design a better estimator for …..
    3. They suggest two common ways , weighting and regression adjustment, but they all have merits and demerits. Thus, the author combined them into approximate residual balancing.
    4. After that, they prove for the Asymptotics in different conditions. first they discuss under Transformed independence design, and finally they release it into overlap + design.
14. (Page 15)
    1. that's all about myself, what I've done and learned. And I deeply appreciate this chance. Thank u.