Amazon Behavior Question

1. Self-introduction

My name is Shanghao. I recently graduated from Simon Fraser University with a master degree in Computing Science. During my last two semester, I was doing co-op at Copper Tree Analytics. I mainly did two projects in CopperTree. The first one is about time-series data clustering which includes ETL data, time series clustering research and implementation and built a visualization demo. The second one is about a multi-variant anomaly detection module based on LSTM developed on Pytorch. This module can find potential anomaly trend logs from a lot of interacting trend logs.

Before I came to Canada, I worked as a data engineer intern at Cisco for one year. My main job is to ETL data, develop tools for data migration and WebEx meeting data analysis. Also, I have three years of WinForms application developing experience before my graduate study. I am a person enjoy learning new technologies. Keeping learning and being curious always refreshes my mind with better designs and solutions.

2. Why Amazon

Amazon is a top internet retailing company with a strong focus on customer experience and obsession. Its motto- work hard, have fun, make history inspires me. I'm a person who respects hard working and cares a lot about customer experience, so the culture of Amazon attracts me a lot.

Furthermore, the growth of this company is pretty impressive, it's not only an online retail shop but also has a wide range of products like Alexa, Kindle, fire tablet and TV, Amazon cloud service, etc. Hundreds of thousands of talented engineers are working passionately here, building an innovative system and solving problems at an unprecedented scale.

Therefore, this is a place where I can learn a lot, and use my skills and experience to make things happen with a team.

3. Tight Deadline

3.1 Finished

Personally, I have to say that a tight deadline sometimes helps me to stay motivated and productive. From my previous experience, it is very important to insist on high standard planning to help you deal with a tight deadline. Drawing up detailed daily, weekly and monthly plan helps me to get ahead of stress situations. During my first-semester graduate study, I have three project deadline in the same week. I planed the detailed daily plan every day for each project. Also, I sacrificed all my spare time before finishing my daily plan. Moreover, I also want to make sure that most of the work is done a few days before the deadline. Finally, I finished the three project on time and received good grades.

3.2 Not Finished

When I worked as a software engineer at a Japanese company, my job is to develop non-standardized industrial software for the cooling and heating testing device. Once, I was working on a compressor testing project with new customers. During the development process, the customer changed their requirements frequently. I believed I could handle the new requirements, but I miscalculated how long it would take me to develop it. Finally, I realized I would not make it in time and contacted my customer to explain the situation. I sincerely apologized, explained what happened and asked for an extension. At the same time, I asked them what features they most wanted to accomplish before the deadline. Through communication with the customers, I promised that I can complete important features before the deadline. Then, I would finish other features as early as possible. In the end, the customer accepted my apology and was satisfied with my work.
In this experience, I learned that customer obsession is import. I must put the customer's request and the customer's trust in the first place.

4. Most interesting project

The most challenging project I've done was the anomaly detection module project when I was doing co-op at CopperTree Analytics. It was challenging because I faced many difficult problems to solve. The idea for this project came from a recently published paper. This paper introduced good results on anomaly detection when using LSTM.
The first difficulty was to convince my leader of the feasibility of this approach. Since

my leader's experience is mainly in automatic control, he couldn't understand why the neural network can do anomaly detection on many interacting trend logs. I think the best way to communicate was to implement a prototype and got some good results on the test data.
Therefore, I tried to implement the approach from the paper and apply it to the real data in my spare time. In the beginning, I faced another problem that I couldn’ t reproduce the results from the paper since he didn’ t public the test data. I have to read more related papers and discuss with others online. Through different approaches, I finally got good results and shared with my leaders. My leader agreed that we can try this approach.
In order to get a better result, I have to learn Pytorch in a short time and solve other problems like missing data, feature engineering. Throughout this process, I learned that it was important to be curious and keep learning, tried to read as many technical blogs or articles as you can, the more you read, the better you’ ll ace a problem or design. The feeling of ownership is very important. It will help you achieve your longer-term goals.

5. 1)The biggest mistake you made and what did you learn from it? (earn trust, customer obsession) 2)something wrong you've done

When I worked as a software engineer at a Japanese company, my job is to develop non-standardized industrial software for the cooling and heating testing device. Once, I had a task to write a new class for communication a new controller. One day, I was working on writing and testing communication function to this controller. After finish coding, I planned to test communication with the controller. Since the new controller shape is very similar to the old one, I wiring it directly as the old one. However, I made a huge mistake with the positive and negative poles. During the testing process, the controller was broken directly. This was the biggest mistake I made. I learned that I must set on a high standard on my work and never miss any details from this experience.

6. Ownership

When I worked as a software engineer at a Japanese company, my job is to develop non-standardized industrial software for the cooling and heating testing device. Our company usually use RS-485 and RS-232 protocols in the electrical communication

system. The cost of using this protocol is very high since it needs cable, transmitter, receiver and other hardware. However, when I read the latest document of some controllers and sensors, they support wireless communication. If we can use wireless communication, this can save a lot of money. However, no one knew whether wireless communication was stable enough in industrial control. Therefore, I read the document carefully and wrote the test code to use wireless communication on one controller in my spare time. Through many tests, it was proved that wireless communication was a feasible way. Finally, we gradually use wireless communication instead of the original way. I took the ownership to this process and accomplish more with less. Also, keep learning and be curious help me to improve myself.

7. 帮助队, beyond your responsibility

When I worked as a software engineer at a Japanese company, my job is to develop non-standardized industrial software for the cooling and heating testing device. Usually, we had 3 engineers in the project which includes a refrigeration engineer, an electrical engineer, and a software engineer. Once, while debugging the equipment on site, there was something wrong with PLC communication with equipment. PLC programs were usually written by electrical engineers. However, the electrical engineer was involved in another project and he was in another company. It was not a good choice to ask electrical engineer come here immediately since it took a long time for him to book a flight to here and our customer wanted us to finish the project as early as possible. Therefore, the best way was to solve the problem by myself. I asked the electrical engineer on by cell phone about the possible problems in PLC. Then I modified the PLC program, tested the results, and finally solved the problem. Since I only took a PLC related course at university, it is a great challenge for me to read the program and modified it in a short time. Although there are some adventures, speed matters in business. Customers are satisfied that we can solve the problem quickly, and my coworker did not have to spend a lot of time running back and forth.

8. 1)谈一个你面对过的障碍，你是如何克服的 & 2)有哪些自学经历，如何解决问题 $ 3)学习新东西的经历

At my previous internship at CopperTree Analytics, I worked on a project for building systems anomaly detection. I developed the anomaly detection module based on

LSTM and tried to increase accuracy for anomaly detection.

At that time, I met a problem with missing data. If there is a long period of missing data, our module always detects anomaly at next time instant. I have to do research on how to deal with missing data on RNN network. From the relevant literature, the most common method is to cut the missing data directly from the input. However, it didn't work on this project. After discussing with my mentor, we found that we can take advantage of the periodic change for the build systems' trend logs. Therefore, we add four features to help the Network to learn the periodic change. These four features are sinOfDay, consinOfday, sinOfweek, and consinOfweek.

Through this experience, I learned that an engineer should better understand the data which will help you to get better achievements. I should externally aware, look for new ideas from everywhere.

9. 谈一次你冒着“可控危险”做事的例子（calculated risk那题）

The biggest risk I took, it was changed my career direction. I decided to change my career direction to Computing Science because I have always been fascinated by new technology. I worked as a software engineer in a Japanese Company after graduation from Shanghai Maritime University. After working for three years, I found that I was interested in computer science and want to go back to school to refresh skills.

In China, took graduate entrance examination means I have to self-study many computer science courses like data structure, computer network, computer organization, operation system. I searched for the relevant information and other people's experience, I believe that I can pass the exam. In the last two months before the exam, I resigned from the company and totally focused on preparing for the exam. Although I took a lot of risks on financial, I was well prepared for all the problems I might face. Finally, I passed the graduate entrance exam and had the opportunity to exchange to SFU. If I stay thinking about all kinds of risks, then I may have any action. It's better to take a risk under careful consideration.

10. 如果你不了解如何解决一个问题但是你需要承诺解决它，你会怎么做

12.超出预期的事情（beyond expectation）

16. conflict with teammates

When I worked in a Japanese company, I had a conflict with my colleagues for project design. Usually, we had a refrigerating engineer, an electrical engineer, and a software engineer during a project. Once, three of us had different opinions for the project design since everyone's design was based on their own familiar knowledge.

I first scheduled a one-on-one meeting to listen to others' opinions and fully communicated my thoughts. Also, I asked the other team experienced engineers who had completed a similar project before. Though this further communication, I understood each one's project design strengths and weaknesses.

Finally, we reached the agreement on the project design, which met the basic requirements of everyone. Through this experience, I've learned that good communication is half of a successful project.

17. 1.信息不够的事情 & 2. ask for help 在project中不知道下一步做什么的时候你会怎么办，走出舒适圈

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Throughout the project, I think it is important to seek diverse perspectives, look for new ideas from everywhere.

21. Tell me about a time when you worked against tight deadlines and didn’ t have time to consider all options before making a decision

When I worked as a software engineer at a Japanese company, my job was to develop non-standardized industrial software for the cooling and heating testing device. When I testing the equipment at the customer's company, the customer suddenly put forward a new requirement in software. In the previous communications with customers, they never mentioned this requirement. At that time, our project manager was on vacation. Therefore, I have to decide whether to say yes or no to the customer. It had a tight deadline and adding new features means I might not be able to finish it on time. After a quick thought, I decided to agree to the customer's request. Our engineers had to sacrificed their spare time and eventually completed all the requirements before the deadline.

The reason is that we should put our customers first and earn the customer's trust. Risk taking is inevitable, fast action and high standards are the keys to success.