口语问题

常见词汇

中文	英文
免试入学研究生	Postgraduate Candidates Exempt from Admission Exam
推免研究生	Promotion and exemption of graduate students
夏令营	Summer Camp
优秀营员	Excellent Camper
本科	Undergraduate
文凭	Diploma
研究生	Postgraduate
证书	Certificate
大一学生	Freshman
本科学位	Bachelor's Degree
大二学生	Sophomore
硕士学位	Master's Degree
大三学生	Junior
选修课	Elective/Optional Course
大四学生	Senior
必修课	Compulsory Course
学位	Degree
学分	Credit
主题、科目、学科、题目	Subject
奖学金	Scholarship
(论文)导师	Supervisor
(学位)论文	Thesis
实习生	Intern
实习期	Internship

中文	英文
干事	Secretary
兼职	Part-time Job
学生干部	Student Leader
学生会	Students' Union
活动负责人	Campaign Manager
学生会主席	President of the Students' Union
有才干的，能干的	**Able**
适应性强的	Adaptable
主动的，活跃的	Active
有进取心的	Aggressive
有雄心壮志的	Ambitious
和蔼可亲的	Amiable
友好的	Amicable
善于分析的	Analytical
有志气的，有抱负的	Aspiring
有冒险精神的	Audacious
有能力的，能胜任的	Capable
正直的	Candid
能胜任的	Competent
建设性的	Constructive
有合作精神的	Cooperative
富创造力的	Creative
有奉献精神的	Dedicated
可靠的	Dependable
老练的，有策略的	Diplomatic
守纪律的	Disciplined
受过良好教育的	Well-educated

中文	英文
尽职的	Dutiful
有效率的	Efficient
精力充沛的	Poetic
善于表达	Expressivity
守信的，忠诚的	Faithful
宽宏大量的	Generous
公正的	Impartial
有主见的	Independent
勤奋的	Industrious
有独创性的	Ingenious
目的明确的	Motivated
理解力强的	Intelligent
精通某门学问的	Learned
条理分明的	Logical
有方法的	Methodical
谦虚的	Modest
客观的	Objective
一丝不苟的	Precise
严守时刻的	Punctual
实事求是的	Realistic
负责的	Responsible
明白事理的	Sensible
光明正大的	Sporting
踏实的	Steady
有系统的	Systematic
意志坚强的	Purposeful
性情温和的	Sweet-tempered

中文	英文
稳健的	Temperate
孜孜不倦的	Tireless

常见情况处理

若考官问其他的，没有听明白，可以说(记住，一定要微笑)：

Could you please make the question simpler? 您能把这个问题说得简单些吗？

Could you please express in a different way? 您能用别的话来表达您的意思吗？

Could you please speak louder? Sorry I cannot hear clearly. 您说话声音能大一点好吗？我听不清楚。

Could you please change a question? I don't really understand this one and
therefore it's difficult for me to answer it. 老师，您能换个问题吗？这个我实在听不明白，也不好回答。

自我介绍

```
Good morning(afternoon) professors, my name is Zhao Tianyao, I come from Sun Yueqi
College of China University of Mining and Technology, my major is computer science
and technology, and I am honoured to have the opportunity to participate in the
summer camp of Northwestern Polytechnical University.

In terms of my schoolwork, my grade point average is 90.53, ranking first in the
college. I have passed both CET 4 and CET 6 with decent scores.

Besides schoolwork, I also attached significant importance to academic research。I
am a member of the AICV Artificial Intelligence Lab, and my main research interests
are autonomous driving perception.I participated in many subject competitions and
achieved good results. During the summer and winter holidays, I also went to
overseas universities for short-term exchange visits.

China University Of Mining and Technology has given me a lot in the past few years,
which not only made me grow up from an ignorant to a student with clear carrer plan,
but also strengthened my confidence in devoting to the society; not only laid a
solid professional foundation for me , but also taught me to hold a proper attitude
towards the academic.

All in all, I deem myself a diligent, responsible, and open-minded student. I am
looking forward to becoming a graduate student at your institute. This concludes my
introduction. Thanks for your attention.
```

介绍学校

（1）介绍一下你的学校

`Tell me something about your university.`

```
  My undergraduate college is China University Of Mining and Technology. Located in Xuzhou, Jiangsu Province, It is a university of science and technology, mainly in the mining industry. I'm from Sun Yueqi College, an honours college in our school。
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```
China University Of Mining and Technology has given me a lot in the past few years, which not only made me grow up from an ignorant to a student with clear carrer plan, but also strengthened my confidence in devoting to the society; not only laid a solid professional foundation for me , but also taught me to hold a proper attitude towards the academic.
```

几年来，XXXX大学给了我很多，不仅让我从一个懵懂无知的学生成长为一个有明确职业规划的学生，更坚定了我奉献社会的信心；不仅为我打下了扎实的专业基础，为我传授知识，更教会了我对学术的正确态度。）

（2）你对我们学校了解吗？/ 你能简单说说对我们学校的印象吗?

`Do you know our school? / Can you briefly talk about your impression of our school?`

```
Your university enjoys a rich faculty, full of professionally competent and high-caliber teachers. There is no doubt that I will learn a lot here. It is always my dream school, now I have a chance to apply for it, I want to seize this chance.
```

您的大学拥有丰富的师资力量，充满专业能力和高素质的教师。毫无疑问，我会在这里学到很多东西。它一直是我梦想的学校，现在我有机会申请它，我想抓住这个机会。

关于专业

（1）介绍专业

`Tell me something about your major.`

```
My major is software engineering. It is a discipline based on computer science and technology which studies the use of engineering methods to construct and maintain effective, practical and high-quality software. It involves programming language, data structure, operating system and so on. Generally speaking, software engineering is a major related to software development.
```

我的专业是软件工程。它是一门以计算机科学和技术为基础，研究使用工程方法来构建和维护有效、实用和高质量的软件等的学科。它涉及编程语言、数据结构、操作系统等。一般来说，软件工程是与软件开发相关的专业。
（注：Software是一个比较特殊的单词，有些类似于water，paper等，属于不可数名词。它的复数形式依旧是software，即：复数不用做任何变化，也无需在词尾添加s。在使用时，需注意a software这样的说法是不正确的。如果要表达“一款软件”，你可以说a piece of software，或者用program来替代software，因为program是个可数名词。）

（2）为什么报考这个专业

`Why apply for this major?`

```
There are two reasons. On the one hand, I love this major very much. It’s interesting and useful. we can do many things on the computer if we learn it well. On the other hand, the computer direction has a broad development prospect in today’s society and studying this major can make me a better job in the future.
```

有两个原因。一方面，我非常喜欢这个专业。这很有趣也很有用。如果我们学得好，我们可以在计算机上做很多事情。另一方面，计算机方向在当今社会有着广阔的发展前景，学习这个专业可以让我以后的工作更好。

为什么读研?

`Why do you want to become a postgraduate?`

```
Because of my personality. I enjoy the life on campus. Learning from teachers and students can teach me a lot of stuff that I think the society won’t teach me. I’m not fond of the competitive atmosphere in the job market. On the contrary, I prefer focusing on research and studying painstakingly.
```

因为我的性格。我很享受校园生活。向老师和学生学习可以教会我很多我认为社会不会教会我的东西。我不喜欢就业市场的竞争氛围。相反，我更喜欢专注于研究和刻苦学习。

为什么你选择我们的学校，继续学习?/为什么报考我们学校?

`Why do you choose to study at our school? / Why do you choose our university?`

```
Your university enjoys a rich faculty, full of professionally competent and high-caliber teachers. There is no doubt that I will learn a lot here. It is always my dream school, now I have a chance to apply for it, I want to seize this chance.
```

您的大学拥有丰富的师资力量，充满专业能力和高素质的教师。毫无疑问，我会在这里学到很多东西。它一直是我梦想的学校，现在我有机会申请它，我想抓住这个机会。

如果你被我们学校录取了，你希望在这里收获什么?

`What do you expect to achieve during your study if you are enrolled into this institute?`

```
If I am lucky enough to be a postgraduate student in your school, I hope to read more frontier academic literature and accumulate more practical experience, so I can become an excellent student in the computer field. In addition, I hope to get some opportunities of intercultural communication and to broaden my horizons.
```

如果我有幸成为贵校的研究生，我希望能阅读更多的前沿学术文献，积累更多的实践经验，成为计算机领域的优秀学生。此外，我希望获得一些跨文化交流的机会，开阔我的视野。

对于接下来研究生学习的规划?

`What is your (research) plan in the postgraduate study?`

```
I want to improve myself in three aspects.
First of all, in terms of professional skills, I want to conduct more research under the guidance of my tutor and improve my ability of doing research.
Secondly, I want to improve my English skills by reading more English papers and writing English essays.
Thirdly, I also want to become more self-reliant, strengthen the critical thinking ability, learn to discover and solve challenges independently.
```

我想在三个方面提升自己。
首先，在专业技能方面，我想在导师的指导下进行更多的研究，提高自己的研究能力。
其次，我想通过阅读更多的英语论文和写英语论文来提高我的英语技能。
第三，我也想变得更加自力更生，加强批判性思维能力，学会独立发现和解决挑战。

读研后职业规划

`Do you have a career plan in 5 years?`

```
After graduation, I want to develop in first-tier cities, engage in a related job in the computer field in an Internet company, and apply the theoretical knowledge I have learned to practice. If there is a chance, I want to take an on-the-job Ph.D.
```

毕业后，我希望可以去一线城市发展，在互联网公司从事一份计算机领域的相关工作，将所学的理论知识应用于实践之中。如果有机会的话，我希望可以考个在职博士。

请介绍一下你的科研经历（scientific research）

`Introduce your research experience. / Could you say something about your experience of scientific research?`

```
I have participated in the National Undergraduate Training Programs for Innovation and Entrepreneurship. The theme of the project is XXXXXXXXXXX. In this project, I am mainly responsible for PCA dimensionality reduction of Baidu Index, construction of SVR prediction model, and visualization of prediction results. In addition, I actively participated in various mathematical modeling competitions, many of which ended up with a good prize.
```

我曾参加国家大学生创新创业训练项目。项目的主题是"XXXXXXXXXXXXXX"。 在这个项目中，我主要负责百度指数的PCA降维，SVR预测模型的构建，预测结果的可视化。此外，我还积极参加了各种数学建模竞赛，其中很多都获得了不错的奖项。

在大学，你迄今为止最有成就感的一件事 / 大学里最难忘的一件事 / 大学里最成功的一件事

`What has been your greatest success/accomplishment in campus life? / What is the most memorable/successful thing you have in college?`

```
In my freshman year, my grades in mathematics were unsatisfactory. I know its importance well, so in the sophomore year, I worked hard and got full marks in the final exam of the Complex Function and Integral Transformation. This is undoubtedly the greatest affirmation for me, and it also supports me to continue to study hard.
```

在大一时,我的数学成绩不是很理想。我深知它的重要性，在大二学年,我不断努力，在复变函数与积分变换课程的期末考试中拿到了满分，这无疑是对我最大的肯定，也支撑着我继续努力学习。

你在科研/竞赛经历中学到了什么?

`What have you learned from your research experience/competition experience?`

```
From the research experience, I found myself making improvements in many ways. Firstly, by reading lots of frontier academic literature, I got deeper understanding of machine learning. Secondly, I learned more skills in the framework design and data analysis. In addition, my ability of communication was also improved in this research.
```

从研究经验来看，我发现自己在很多方面都在改进。首先，通过阅读大量前沿学术文献，对机器学习有了更深入的了解。其次，我在框架设计和数据分析方面学到了更多的技能。此外，我的交流能力也在这次研究中得到了提高。

请介绍一本你最近看过/最喜欢的专业书籍

`What professional books have you read before? What's the main idea of this text?`

```
I recently read “Data Structure” by Professor Yan Weimin. The first half of this book discusses various basic types of data structures and their applications, and the second half mainly discusses various implementation methods of searching and sorting and their comprehensive analysis and comparison. Through reading this book, my understanding of C Programming Language’s data structure has been further deepened.
```

我最近读了严蔚敏教授的《数据结构》。这本书的前半部分从抽象数据类型的角度讨论了各种基本类型的数据结构及其应用，后半部分主要讨论了查找和排序的各种实现方法及其综合分析比较。通过阅读这本书，我对C语言数据结构的理解进一步加深。

过去的5年里，在你的专业领域里你认为最重要的变化是什么?

`What do you think have been the most important changes in your study field over the past 5 years?`

```
（可以从研究范式、研究视角、研究方法、研究内容、研究领域等方面回答）

In my humble view, the dramatic change in my major lies in the research content. In recent years, the scholars pay more attention to the study of artificial intelligence. Its rapid development has brought great convenience to all aspects of our lives.
```

以我的拙见，我专业的巨大变化在于研究内容。近年来，学者们更多地关注人工智能的研究。人工智能的发展突飞猛进，给我们生活的方方面面带来了极大的便利。

介绍家乡

`Where are you from? / Tell something about your hometown. / Would you like to tell some stories about your hometown?`

```
My hometown is XX, located in the westernmost part of XX Province. The whole city is a plain, mainly agriculture. XX has a long history of more than 5,000 years. It has four distinct seasons and pleasant scenery and it’s a national livable city. XX’s specialties include Dong-E E-jiao, Gaotang Donkey, Jingyanggang wine and so on.
```

我的家乡XX位于XX省最西部，全市皆为平原，以农业为主。XX至今已有5000多年的历史。XX四季分明，风景宜人，是国家宜居城市。XX的特产有东阿阿胶、高唐驴肉、景阳冈酒等。在你家乡气候怎么样?

```
How would you compare the climate in your hometown with other cities?

My hometown is XX, located in the westernmost part of XX Province. Its climatic characteristics are mainly manifested as dry and windy in spring, hot and rainy in summer, clear and fresh in autumn, and cold and dry in winter. Therefore, the climatic conditions in XX are very suitable for planting a variety of crops.
```

我的家乡XX位于XX省最西部。其气候特点主要表现为春季干旱多风，夏季高温多雨，秋季天高气爽，冬季寒冷干燥。因此XX的气候条件非常适合种植多种农作物。

你家乡的人怎么样?

`What are the people like in your hometown?`

```
It's well known that people in Shandong Province are very hospitable. The people in XX are very righteous, loyal and honest, open-minded, upright and strong in character, practical, and love their hometown. They are all proud of this city and welcome you to travel here.
```

众所周知山东人非常的热情好客。XX的人民非常仗义，忠厚朴实，胸怀坦荡，正直刚强，做事踏实，热爱自己的故乡。他们都为这个城市感到骄傲，欢迎你来这里旅游。

最喜欢的城市是？为什么?

`Which city do you like best and why?`

```
My favorite city is Shanghai which is an international city. It's beautiful and unique. People living in Shanghai come from all over the world, everyone can live together peacefully and find their own sense of belonging in this city. In addition, Shanghai has a developed economy and convenient transportation. There are more opportunities for development here.
```

我最喜欢的城市是上海，它是一座国际化的城市，它美丽而别致。生活在上海的人来自世界各地，大家都能和平共处，在这座城市中找到属于自己的归属感。另外，上海经济发达，交通便利，在这里发展可以有更多的机会。

介绍家庭

（1）介绍家庭

`Tell something about your family.`

```
There are four people in my family: my father, my mother, my sister and me. My parents are both XX. My sister is already married. Although I'm the youngest child in my family, my parents never spoil me. On the contrary, they ask me to work steadily and be an honest person, which is not only their request for me, but also their own golden rule.
```

我家有四口人：爸爸、妈妈、姐姐和我。我的父母都是XX，我姐姐已婚。虽然我是家里最小的孩子，但父母从不宠我。相反，他们要求我踏踏实实做事，做一个诚实的人，这不仅是他们对我的要求，也是他们自己的金科玉律。

（2）描述一下你的父亲/母亲

`Describe your father/ mother.`

```
My father is a hardworking and simple XX. He is not good at talking and always pays for me silently. He is well aware of the importance of study and has always taught me to study hard and use knowledge to change my destiny.
```

我的父亲是一位勤劳朴实的XX。他不善言谈，总是默默的为我付出。他深知学习的重要性，一直教导我要好好学习，用知识改变命运。

```
My mother is a kind and hardworking woman who likes growing flowers and online shopping. She has always respected my ideas and never forced me to do things I don’t like. Her cooking skill is very good, and I often miss her meals when I was in school.
```

我的母亲是一个善良且勤奋的女人，喜欢种花和网上购物。她一直非常尊重我的想法，从不强迫我去做不喜欢的事情。她的厨艺非常棒，我在学校时经常想念她做的饭菜。

个人兴趣爱好 / 业余活动 / 你空闲时间喜欢做些什么?

`Could you tell me about a hobby or an interest that you have? / What do you like to do in your spare time? / How do you arrange your spare time?`

```
(As the old saying goes，“All work and no play makes Jack a dull boy”.) In my spare time, I like playing table tennis and growing green plants to relax. During my three years in university, I planted a lot of succulents on the balcony of the dormitory. Whenever seeing them, I always feel very fulfilled.
```

（俗话说，“只工作不玩耍，杰克就是个无趣的男孩”。）闲暇之余，我喜欢打乒乓球和种植绿色植物来放松。在在大学的三年里，我在宿舍的阳台上种了很多多肉植物。每次看到他们，我都觉得很充实。

性格特点

`What kind of character do you think you have?`

```
First of all, I am a determined and diligent person. I always take effort to pursue my dreams and never give up easily. Secondly, I always stay calm, which helps me make right decisions in my personal and professional life. What’s more, I am a warm-hearted person. When someone needs help, I will always give a hand.
```

首先，我是一个坚定而勤奋的人。我总是努力追求我的梦想，从不轻易放弃。其次，我总是保持冷静，这有助于我在个人和职业生活中做出正确的决定。更重要的是，我是个热心肠的人。当有人需要帮助时，我总会伸出援手。

相关词汇

outgoing = extroverted 外向的
considerate = thoughtful 体贴的，周到的
hospitable 热情好客的
humorous 有幽默感的
responsible 负责任的
courageous = brave 勇敢的
approachable = easygoing 平易近人的
patient 有耐心的
hardworking = diligent 勤奋的

introverted 内向的
devoted = dedicated 奉献的
open-minded 思想开放的
a sense of humor 幽默感
confident 自信的
dependable = reliable 可靠
humble = modest 谦虚的
passionate 热情的

你的优缺点

`Your strengths and weaknesses.`

```
My strongest strength is the conscientiousness and commitment in work and learning which promotes me to develop unceasingly and devote myself to my study and do a good job.
My greatest weakness is that I often work on one task to its completion before starting on another. Perfectionism prevents me from working on many tasks at the same time. This weakness makes me sad sometimes, and I am trying my best to overcome it.
```

我最大的优势是在工作和学习中的兢兢业业，这促使我不断发展，全身心地投入学习，做好工作。
我最大的弱点是我经常把一件事情做完，然后再开始另一件事情。完美主义使我无法同时处理多项任务。这种弱点有时让我感到难过，我正在努力克服它。

你投递了多少学校?如果我们录取你，你会来吗?

`How many programs did you apply for? If we give offer to you, will you accept?`

```
I also applied for XX University and XXXX University. However, if I am lucky enough to be a young student here, I will definitely come. Because the academic environment here is rather attractive. Your university enjoys a rich faculty, full of professionally competent and high-caliber teachers. There is no doubt that I will learn a lot here.
```

我也申请了XX大学和XXXX大学。不过，如果我有幸成为这里的年轻学生，我一定会来的。因为这里的学术环境相当吸引人。您的大学拥有丰富的师资力量，充满专业能力和高素质的教师。毫无疑问，我会在这里学到很多东西。

你觉得英语重要么?为什么?

`Do you think English is important for your future plans?`

```
Of course. English plays an indispensable role both in my academic study and future career. When looking for some learning material online for my research, the Chinese information is usually not enough, therefore the English information works as an essential compensation. Furthermore, when I command English, work efficiency will be greatly improved because the time of the between languages is shortened.
```

当然。英语在我的学术学习和未来的职业生涯中都扮演着不可或缺的角色。当我在网上寻找一些学习资料进行研究时，中文信息通常是不够的，因此英文信息是必不可少的补偿。此外，当我掌握英语时，由于缩短了语言之间的时间，工作效率将大大提高。

你有什么特长?

`What's your specialty? / What are good at?`

```
I have strong writing ability and essay translation ability. I have been responsible for the writing and typesetting of documents in the group of many experimental classes for many times, and I have also helped a graduate student to translate papers.
```

我有较强的写作能力和论文翻译能力。我曾经在多次实验课中负责小组中文档的撰写与排版工作，也曾帮助过一位研究生学长翻译过论文。

介绍你们学校的一种植物

`Introduce a plant from your school.`

```
There are many ginkgo trees in our school. Every fall, their leaves will turn golden yellow, looking from a distance, as if they are shining. Many students will take pictures under the ginkgo trees, and some students will pick up the fallen leaves and make them into bookmarks.
```

我们学校种植了很多的银杏树。每到秋天，它们的叶子就会变成金黄色，远远望去，仿佛在闪闪发光。很多同学在银杏树下拍照留念，也有一些同学会捡走掉落的银杏叶把它们做成书签。

你的偶像是谁?

`Who is your idol?`

```
My idol is Hawking. He has suffered from ALS since he was young and can only sit in the wheelchair. Although suffering from illness, Hawking never thought of giving up his life. He was physically disabled and strong, and while fighting against the illness, he also made a lot of contributions to physics. I admire his perseverance in life.
```

我的偶像是霍金。他从年轻时就患有ALS，只能坐在轮椅上。虽然饱受病痛的折磨，但霍金从没有想过放弃生命。他身残志坚，与病魔对抗的同时也为物理学做了很多贡献。我非常敬佩他对生命的不屈不挠。

英语方面

（1）你的英文水平怎么样 / 请讲一下你的英语成绩。

`How is your English level / Please tell me your English score.`

```
English plays an indispensable role both in my academic study and future career. During the three years in university, I have been studying English and have passed CET-4 and CET-6 with decent scores.
```

英语在我的学术学习和未来的职业生涯中都扮演着不可或缺的角色。在大学的三年里，我一直在学习英语，并以不错的成绩通过了CET-4和CET-6。

（2）平时怎么练习英语?

`How do you practice English?`

```
First of all, I persist in reciting English words and try to improve my vocabulary. Secondly, in my spare time, I like watching some US TV series, such as " 2 Broke Girls" and " Why Women Kill".
```

首先，我会坚持背诵英语单词，努力提高自己的词汇量。其次，在课余时间我会看一些美剧，比如《破产姐妹》《致命女人》等。

（3）你最喜欢的一部英文电影是什么?

`What is your favorite English movie?`

```
My favorite movie is Forrest Gump. Forrest Gump is unfortunately to be born with a low IQ and muscle problem. Although he was not smart, he knew how to keep life hopeful and dynamic. I think that must be his charm of personality.
```

我最喜欢的电影是《阿甘正传》。不幸的是，阿甘出生时智商低，肌肉问题。虽然他并不聪明，但他知道如何让生活充满希望和活力。我想那一定是他的人格魅力。

你本科的导师是谁?

`Who is your undergraduate tutor?`

```
My undergraduate tutor is Associate Professor XX who is also my head teacher. She is very kind and has brought a great help to my scientific research. I am very grateful to her.
```

我本科的导师是XX副教授，她是一位非常和蔼的老师，对我的科研有很大的帮助，我非常感激她。

你怎么看待996?

`What do you think of 996 work schedule? （work from 9 am to 9 pm, six days a week）`

```
I think that efficiency is not reflected by overtime, but by our own work level. If one thing needs to be done for an extended period of time, the cost will increase greatly, and the gain will not be worth the loss. So, I think that how to complete our job faster and better is what we should consider.
```

我认为效率不是靠加班时间体现的，而是我们本身的工作水平。如果一件事情还需要延长时间来做，其成本大大增加，反而得不偿失。所以我认为，如何更快、更好地完成本职工作，才是我们该好好考虑的。

介绍一下你参加的大创项目

`Introduce the innovation training program for college students you participated in.`

```
Aiming at the problem of forecasting daily tourist flow in mountainous scenic spots with multiple features, we propose the SVR-LSTM combined model based on residual analysis approach: First, we train SVR with historical passenger flow and dimensionality-reduced Baidu Index as features. Then, we use weather conditions and holidays as features to train the LSTM model to predict the residuals generated by the SVR model. Finally, the passenger flow predicted by SVR is combined with the residual error predicted by LSTM to obtain the final predicted tourist flow.
```

针对含有多个特征的山岳型景区日客流量预测问题，我们提出了一种基于残差分析方法的SVR-LSTM组合模型：首先，我们将历史客流与降维后的百度搜索指数作为特征训练 SVR 模型。然后，我们将天气状况和节假日作为特征训练 LSTM 模型，对 SVR 模型产生的残差进行预测。

介绍项目中用到的一些方法 \ 简述一下XX的过程 \ 最喜欢的机器学习算法

`Introduce some approaches used in the project.`

（1）主成分分析PCA (Principal component analysis)
PCA is the most commonly used approach of linear dimensionality reduction. Its goal is to map high-dimensional data to a low-dimensional space through a certain linear projection and expect to maximize the variance of the sample points after projection. In this way, fewer data dimensions are used while retaining the characteristics of more original data points.
主成分分析(PCA)是最常用的线性降维方法。它的目标是通过某种线性投影，将高维的数据映射到低维的空间中表示，并期望投影后样本点的方差最大化，以此使用较少的数据维度，同时保留住较多的原数据点的特性。

（2）支持向量回归SVR (Support Vector Regression)
The full name of SVR is Support Vector Regression, which is an application of SVM to regression problems. SVR establishes a “spacer band” on both sides of the linear function. For all samples that fall into the interval band, no loss is counted. Only samples outside the interval band are included in the loss function. (Then optimize the model by minimizing the interval width (ε) and the total loss.)
SVR全称是Support Vector Regression，是SVM对回归问题的一种运用。SVR在线性函数两侧建立了一个“间隔带”。对于所有落入到间隔带内的样本，都不计损失。只有处于间隔带之外的样本才计入损失函数。（之后通过最小化间隔带宽度(ε)和总损失来优化模型。）

（3）长短期记忆神经网络LSTM (Long short-term memory)
LSTM is a special kind of RNN, mainly to solve the problem of gradient disappearance and gradient explosion in the training process of long sequences. LSTM controls the cell state through gates. There are three different gates to regulate the information flow in the LSTM unit: input gate, output gate, and forget gate. There are three main stages inside LSTM: forget stage, select memory stage and output stage.
LSTM是一种特殊的RNN，主要是为了解决长序列训练过程中的梯度消失和梯度爆炸问题。LSTM通过门来控制细胞状态。有三个不同的门来调节LSTM单元中的信息流：输入门、输出门和遗忘门。在LSTM内部主要有三个阶段：忘记阶段、选择记忆阶段和输出阶段。

在这个项目中，你们遇到的困难/挑战是什么？怎么解决的？

`What's the biggest challenge / problem in this project? How did you solve it?`

```
In this project, it's difficult to obtain the experimental data set. In order to solve this problem, web crawler technology is used to obtain the data set which includes Baidu Index, weather conditions, tourist flow, etc.
```

在这个项目中，很难获得实验数据集。为了解决这个问题，我们使用网络爬虫技术获取包含百度指数、天气状况、客流等数据集。

```
We did not find an exact basis when adjusting the model parameters. In order to solve this problem, we use the grid search method. The possible values of each parameter are combined and arranged, and the optimal parameters are determined through exhaustive search.
```

在调整模型参数时我们没有找到确切的依据。为了解决这个问题，我们使用了网格搜索法。将各个参数可能的取值进行组合排列，通过穷举搜索来确定最优参数。

这个项目研究的不足之处有哪些？/ 实验设计的漏洞 / 有待深入的研究

`What are the shortcomings of this project research?`

```
(1) In terms of feature fusion, we perform PCA dimensionality reduction on Baidu Index. However, this does not completely eliminate the redundant information, so it is necessary to explore more effective and more suitable dimensionality reduction methods for Baidu Index.
(2) In terms of model construction, it is difficult for us to determine the characteristics of residuals. It is also necessary to further explore the root causes of passenger flow residuals, extract effective features, and further improve the prediction accuracy of residuals.
(3) In terms of model testing, due to the difficulty of data acquisition, the model only predicts the passenger flow of Jiuzhaigou, lacking the support of data from other scenic spots, and cannot prove its effectiveness for other scenic spots.
```

（1）在特征融合方面，我们对百度指数进行了PCA降维。但是，这并不能完全消除冗余信息，因此需要探究更为有效且更适用于百度指数的降维方法。
（2）在模型构建方面，我们难以确定残差的特征。还应进一步探究造成客流残差的根本原因，提取出有效的特征，从而进一步提高对残差的预测精度。

（3）在模型检验方面，由于数据获取比较困难，该模型仅仅对九寨沟的客流进行了预测，缺乏其他景区数据的支撑，无法证明它对其他景区的有效性。

研究生阶段你要做什么（master硕士）/ 你感兴趣的研究方向是什么?

`What's the research direction you are interested in? / What research direction do you want to pursue in postgraduate?`

```
My research interests are big data analysis, data mining and data visualization. Since I participated in a project on tourist flow forecast in scenic spots during my undergraduate period, I am more interested in the research direction of data processing. I hope that through my unremitting efforts at the graduate level, I can make achievements in one of the above research fields and promote the progress of science and technology.
```

我感兴趣的研究方向是大数据分析、数据挖掘以及数据可视化。由于本科时期我参加过一项关于景区客流预测的项目，所以我对数据处理方面的研究方向比较感兴趣。希望通过研究生阶段的不懈努力，我可以在以上的某一个研究领域中有所建树，推动科学与技术的进步。

你对人工智能的看法

`What do you think of artificial intelligence?`

```
In recent years, the scholars pay more attention to the study of artificial intelligence. Its rapid development has brought great convenience to all aspects of our lives.
```

近年来，学者们更多地关注人工智能的研究。人工智能的发展突飞猛进，给我们生活的方方面面带来了极大的便利。

介绍学科

数据结构Data Structure

```
Data structure is a professional basic course which includes linear structure, tree structure, etc. It's of great importance to program design. When we need to design an algorithm, it will be efficient if we choose a suitable data structure.
```

数据结构是一门专业基础课，包括线性结构、树结构等。它对于程序设计非常重要。当我们需要设计算法时，如果我们选择合适的数据结构，这个算法将是有效的。

计算机操作系统Computer Operating System

```
Computer operating system is a professional basic course. Its main functions include processor management, memory management, equipment management and file management. It’s of great importance to program design. If we know the computer operating system, we can make the program more efficient and robust.
```

计算机操作系统是一门专业基础课。操作系统的主要功能包括处理器管理、内存管理、设备管理和文件管理。计算机操作系统对程序设计具有重要意义。如果我们了解计算机操作系统，我们可以使程序工作更加高效和健壮。

编译原理Compilation Principle

```
Compilation principle is a professional basic course. It’s the foundation of programming and it’s of great importance to program design. If we know the compilation principle, we can make the program more efficient and robust.
```

编译原理是一门专业基础课。它是程序设计的基础，对程序设计非常重要。如果我们知道编译原理，我们就可以让我们的程序工作更高效、更健壮。

计算机网络 Computer Network

```
Computer network is a professional basic course. It’s the foundation of programming and it’s of great importance to program design especially for web projects. If we know the computer network, we can make the web project more efficient and robust.
```

计算机网络是一门专业基础课。它是编程的基础，对于程序设计尤其是对于Web项目具有重要意义。如果我们了解计算机网络，就可以使我们的网络项目更加高效和健壮。

计算机组成原理the Principle of Computer Composition

```
The principle of computer composition is a professional basic course. It’s the foundation of programming and it’s of great importance to program design. If we know the principle of computer composition, we can make the program more efficient and robust.
```

计算机组成原理是一门专业基础课。它是程序设计的基础，对程序设计具有重要意义。如果我们了解计算机组成的原理，就可以使我们的程序更加高效和健壮。

计算机视觉Computer Vision

```
Computer vision has been a hot topic in recent years. The current research usually adopts the approach of convolutional neural network. With the developing of the research on it, many efficient neural networks have been produced in recent years. It can be used in picture classification, face recognition and so on.
```

近年来，计算机视觉一直是一个热门话题。目前的研究通常采用卷积神经网络的方法。随着卷积神经网络研究的深入，近年来产生了许多高效的神经网络，可用于图片分类、人脸识别等。

你最喜欢哪门课？为什么呢?

`What is your favorite course and why?`

```
My favorite course is Compilation Principle. This course focuses on the production principles and technical issues of the compiler. I have learned some knowledge of compilation, the logic of program operation, and my programming ability has also been improved. Learning it helps me understand the underlying implementation and essence of the programming language.
```

我最喜欢编译原理这门课。这门课程关注的是编译器方面的产生原理和技术问题。我学习到了编译的一些知识、程序运行的逻辑，并且我的编程能力也有所提升，学习它有助于我了解程序语言的底层实现和本质。

或:

```
My favorite course is Data Structure which is a professional basic course. It includes some basic types of data structures such as linear structure, tree structure and so on. It also discusses some implementation methods of searching and sorting. Learning it helps me improve my programming ability.
```

我最喜欢的课程是数据结构，这是一门专业的基础课程。它包括一些基本类型的数据结构，如线性结构、树结构等。还讨论了搜索和排序的一些实现方法。学习它可以帮助我提高我的编程能力。

你最薄弱的科目是什么？（你最不喜欢的科目是什么？）

`What is your weakest subject?`

```
My weakest subject is the principle of computer composition. Because the content of this course is more inclined to describe the hardware part of the computer, it is somewhat difficult to understand. Especially the part of instruction system, it is more difficult to understand because I haven't studied assembly language.
```

我最薄弱的科目是计算机组成原理。由于这门课程的内容更偏向于讲述计算机的硬件部分，有些难以理解。尤其是指令系统那一部分，由于我没有学习过汇编语言，理解起来比较吃力。

你认为哪个编程语言最重要？为什么?

`Which programming language do you think is the most important? why?`

```
I think that C programming language is the most important. Because its grammatical structure is concise, its portability is great and its program efficiency is higher. Many programming languages are derived from it.
```

我认为C语言最重要。因为它的语法结构简洁精炼，可移植性非常好，程序效率高。并且很多编程语言都衍生自它。

或:

```
C++ is a widely used computer programming language. The advantage of C++ is that, as long as the software developed in C++, its timeliness, stability, and scalability can be well controlled. This is something that no high-level language can achieve. All high-level languages depend on the basic libraries provided by the C series of languages.
```

C++是一种被广泛使用的计算机程序设计语言。C++的优势在于，但凡是用C++开发出来的软件，它的时效性、稳定性、可扩展性都可以得到很好的控制。这是任何高级语言都没有办法达到的。所有的高级语言都依赖于C系列语言提供的基础库。

介绍某一种算法（快排，堆排等），介绍进程和线程等

（1）介绍一下快速排序算法

`Can you introduce the quick sort algorithm?`

```
According to the sentinel element, two pointers are used to point to the beginning and the end of the array to be sorted. The first pointer is moved from front to back to find the element larger than the sentinel element, and the tail pointer is moved from back to front to find the element smaller than the sentinel element. Exchange these two elements until the two pointers meet. After this sorting, the elements larger than the sentinel are on the right and the smaller elements are on the left. After multiple passes of sorting, the entire array becomes ordered.
```

根据哨兵元素，用两个指针指向待排序数组的首尾。首指针从前往后移动找到比哨兵元素大的元素，尾指针从后往前移动找到比哨兵元素小的元素，交换这两个元素，直到两个指针相遇。经过这趟排序后，比哨兵元素大的元素在右边，小的元素在左边。经过多趟排序后，整个数组变得有序。

（2）介绍一下堆排序

`Can you introduce the heapsort algorithm?`

```
Take ascending sort as an example. For a heap, the top element of the heap is the largest, so after the heap is built, the top element of the heap is exchanged with the last element, and a downward adjustment is made to the top element of the heap. Repeat this until there is only one element in the heap.
```

以递增排序为例。对一个堆来说，堆顶元素是最大的，因此在建堆完毕后，将堆顶元素与堆的最后一个元素交换，进行一次针对堆顶元素的向下调整。如此重复，直到堆中只有一个元素为止。

```
（Heapsort refers to a sorting algorithm designed by the data structure of the heap. The heap is a complete binary tree structure, and at the same time satisfies the nature of the heap: that is, the key value or index of the child node is always less than (or greater than) its parent node.
```

堆排序是指根据堆的数据结构设计的一种排序算法。堆是一个完全二叉树的结构，并同时满足堆的性质：即子结点的键值或索引总是小于（或者大于）它的父节点。）

(3) 什么是进程和线程?

`What is the process and thread?`

```
An executing instance of a program is called a process. Each process provides the resources needed to execute a program. A process has a virtual address space, executable code, open handles to system objects, a security context, a unique process identifier, environment variables, a priority class, minimum and maximum working set sizes, and at least one thread of execution. Each process is started with a single thread, often called the primary thread, but can create additional threads from any of its threads.
```

每个程序执行的实例被称为进程。每个进程提供此程序的所需要的资源。一个进程有一个虚拟地址空间，执行代码，操作系统的系统接口，一个安全的上线文，一个唯一的进程标识符(PID)，环境变量，一个优先级类，设置最大和最小的工作空间大小，和至少一个线程在运行。每个进程都以单个线程启动，通常称为主线程，但是能创建多个子线程。

```
A thread is an execution context, which is all the information a CPU needs to execute a stream of instructions. A CPU is giving you the illusion that it’s doing multiple computations at the same time. It does that by spending a bit of time on each computation. It can do that because it has an execution context for each computation.
On a more technical level, an execution context (therefore a thread) consists of the values of the CPU’s registers.
Threads are different from processes. A thread is a context of execution, while a process is a bunch of resources associated with a computation. A process can have one or many threads.
Clarification: the resources associated with a process include memory pages (all the threads in a process have the same view of the memory), file descriptors (e.g., open sockets), and security credentials (e.g., the ID of the user who started the process).
```

线程是一个执行上下文，它是 CPU 执行指令流所需的所有信息。CPU 会给你一种错觉，即它正在同时进行多项计算。它通过在每次计算上花费一些时间来做到这一点。它可以做到这一点，因为它对每个计算都有一个执行上下文。
在技术层面上，执行上下文（因此是线程）由 CPU 寄存器的值组成。
线程不同于进程。 线程是执行的上下文，而进程是与计算相关的一堆资源。 一个进程可以有一个或多个线程。
澄清：与进程关联的资源包括内存页（进程中的所有线程都具有相同的内存视图）、文件描述符（例如，打开的套接字）和安全凭证（例如，启动进程的用户的 ID）。

(4) 你能说一下进程和线程的区别与联系吗?

`Can you talk about the difference and connection between process and thread?`

```
a) Threads share the address space of the process that created it; processes have
their own address space.
b) Threads have direct access to the data segment of its process; processes have
their own copy of the data segment of the parent process.
c) Threads can directly communicate with other threads of its process; processes
must use interprocess communication to communicate with sibling processes.
d) New threads are easily created; new processes require duplication(克隆、复制) of
the parent process.
e) Threads can exercise considerable control over threads of the same process;
processes can only exercise control over child processes.
f) Changes to the main thread (cancellation(取消), priority change(优先级的改变), etc.)
may affect the behavior of the other threads of the process; changes to the parent
process does not affect child processes.
```

a) 线程是共享内存空间的；进程的内存是独立的。
b) 线程可以直接访问进程中的数据部分；进程有他们独立拷贝自己父进程的数据部分，每个进程是独立的。
c) 同一进程的线程之间直接交流(直接交流涉及到数据共享，信息传递)；两个进程想通信，必须通过一个中间代理来实现。
d) 创建一个新的线程很容易；创建新的进程需要对其父进程进行一次克隆。
e) 一个线程可以控制和操作同一进程里的其他线程；但是进程只能操作子进程。
f) 对主线程的修改，可能会影响到进程中其他线程的修改；对于一个父进程的修改不会影响其他子进程(只要不删除父进程即可)。

你还有什么问题要问我们的吗?

`You can ask any questions that you might have?`

```
Are there any opportunities to enhance my English when studying as a postgraduate
student in your university?
```

贵校读研期间英语充电的机会多吗?

```
.....
Thanks for you answer, which makes me know more about the major and foreign language
study at your university. I will work hard to learn English and professional
courses. I hope you can have a nice day.
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谢谢老师的热心解答，您的解答让我对贵校专业和外语学习有了更深认识，我会努力学习英语和专业课的，祝你们工作顺利。