I’m happy to see you online, Mrs. Jang.

First of all, I really appreciate again your participation in my interview.

Stanley, my friend said he respect you. So, I really want to have some time to talk with you.

My major has an English language program for a degree of NU in Newcastle, England. The program requires interviewing some people who are related to the IT or management field. Is it okay to talk in English?

I major in ITM(IT and Management) in Industrial Engineering.

I studied Python and I am learning java and SQL from beginners’ steps.

I am a beginner and only 21 years old, so I don't know what I want to do exactly.

I have uncertainty about my future career. This is why I ask you for an interview.

I heard about you briefly from Stanley before the interview, but I wonder who you are. Could you introduce yourself?

Thank you so much for your introduction.

방금 소개에서도 그렇고, 메일에서도 퓨어 컴퓨터 사이언스를 공부하셨다고 했는데, 교수님이 생각하는 퓨어 컴퓨터 사이언스와 IT의 차이는 무엇인가요?

차이점:

공통점:

> 컴퓨터에서 이론이라고 하면 어떤 부분인가요??

**Trend - Open-ended questions about the state of the company and field.**

> 알고리즘이 데이터 수집이나 관리에서 많이 사용된다고 알고 있습니다. Google은 알고리즘을 적극적으로 활용해서 사용자 맞춤 광고를 사용한다고 들었습니다.

알고리즘이라는 것은 정확하게 무엇을 의미하는 걸까요?

> 최근에 주목받는 알고리즘의 형태나 유형이 있을까요?

**Insights - Questions focusing on personal successes and resources.**

> 알고리즘이라는 것은 굉장히 복잡한 구조를 갖고 있을 거 같네요. 머신 러닝과 인공지능도 이러한 알고리즘의 발전된 형태라고 볼 수 있는건가요?

> 이러한 알고리즘, 머신러닝, 인공지능에 대한 연구와 활용을 위해 교수님은 어떠한 공부를 진행하셨나요?

> 이론

> 그 분야들을 공부하면서 느낀 점이 있을까요?

**Advice - Questions to elicit advice or empathy towards your situation.**

> 이 분야들을 처음 접하고 시도하려고 한다면 교수님이 추천하고 싶은 책이나 강의, 프로그램 등이 있을까요?

> 알고리즘이라고 하면 굉장히 언터쳐블한, 천재들이 하는 분야라는 이미지가 있는데, 알고리즘을 조금 더 친숙하게 접근하려면 어떠한 자세가 필요할까요?

> 이론

**Resources - Questions about how to stay current in your field**

> 컴퓨터와 관련된 분야는 굉장히 빠르게 발전하고 변화하고 있다고 들었어요. 최신 기술 트렌드를 팔로우하려면 어떠한 리소스를 활용하면 좋을까요?

> 공부를 하다보면 궁금증이나 막히는 부분이 생기기 마련인데, 이럴 때 어떠한 리소스를 활용하면 좋을까요?

> 영어 리소스가 대부분인데, 어느정도의 영어실력이 필요할까요? 개인적으로 작년 한해동안 영어 수업을 듣기는 했지만, 번역기 사용 능력만 향상된 느낌이에요.

IELTS라는 시험을 시험을 쳤는데 6.5정도가 나오더라구요.

**Assignments - Questions about the type of work you would actually do if hired.**

> 현재 하고 있는 일이 제자들을 가르치는 것인데,

> 이전 직장에서는 어떠한 직무를 맡으셨나요?

> 프로젝트나 업무 중에서 가장 기억에 남는 것이 있을까요?

> 알고리즘 전문가는 보통 어떤 분야에 진출하나요? 분야마다 맡는 직무가 다를까요?

Abstract the interview

- About Programming Language

IT and business!

Computer Science has a lot of possibilities to go into different fields!

Java is easy to learn and has many functions and libraries to operate many things automatically.

C++!

Java and Python are popular in the university for application level.

But they have limitations.

Java and python have performance and scaling issues when dealing with big data or cloud computing servers.

Many companies and developers came back to C++ for solving the problems from java and python.

They are looking for a C++ programmer. In the developers’ labor market, already many java and python available graduates. The red ocean. Many supplies are from the universities, but the practical fields want to hire C++ developers. This is the main problem of current Computer science education.

Big cooperate companies like Google or Microsoft rely on C++.

C++ is more effective than other programming languages because C++ is at the system level, core level.

It means its syntax and language are hard to understand.

Python syntax is like human languages, so its codes are intuitive and direct to interpret the operation.

Java users don’t care about how the internal process works.

C++ is the background of most of the other different languages like Java. Java is derived from C++.

C++ grammar shares syntax with Java.

The trend changes fast. Python and Java are the most popular programming languages right now, but no one can predict which language will be hot in five years.

Learning various languages like python and java will be a foundation for a good understanding of computers and codes.

- About a career and internships

Biology in Korea -> quit the college, go to Michigan

Wanted to work in academia, not an industry.

CS and math double major, Ph.D. performance analysis like cloud computing.

Internship in MS.

Internship experiences are helpful for everything, in personal or career aspects.

No one came in without internship experiences in the summer.

Some people worked for 4-5 companies before the interview.

You can learn company culture during the internship.

Many people think Microsoft is a boring and evil company that wants to dominate the whole world, but it wasn’t.

However, Samsung’s culture was strict and hierarchical. She also worked for the mobile department in Samsung. They have a certain dress code and cannot go home before the supervisor goes home.

Company culture is a very important factor to decide whether to work here or not.

- Pure Computer Science and IT

She studied algorithm theories. Proving the theories. Not commercial. How to improve the performance.

Not a coding or making services side. Not a practical side. Write a paper. Discuss futuristic products which cannot be realized even in 10 years. Theoretical Thing.

She worked in the MS research center.

Like the difference between science and engineering.

- Algorithm?

Formalize process. Just design the process.

Condition statement, for example, checks the variables by each condition and assigns some actions for each case.

Not complex or expert stuff.

- Projects in MS

Large scales scientific applications for government labs like Argonne National Laboratory and fermi national laboratory where physicists and scientists are working in.

They need a program to run on a supercomputer. Large data collection and large processing power.

Her job: picking the right resources for the particular job.

Analyze what kind of job and search past job to check performance, then pick the right resources for the particular application.

She takes a look at the wait time, run times, different specs of supercomputers.

Study how to improve its performance by applying what she learned.

Always the performance is not the best.

Give solutions like Azure for clients who deal with huge data.

- Recommendation

Why OOP?

Do some projects

Assignments are not enough.

The lectures teach how to solve the problems. That’s all.

Solving skill is needed during the project.

The online project sites in universities like Stanford, Buckley, Utah shares project ideas.

Python was born during the Christmas holidays.