Personal Statement

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I always felt excited about how the IT industry evolves and changes our daily lives. In Beijing, people are using their Android phone or iPhone to shop on Alibaba, chat and share life moments on WeChat, grab taxi via Didi, and access almost any information they want via Baidu[1]. There is no doubt that "software is eating the world."[2] Software is accessing and revolutionizing lots of traditional industries and even software itself is gradually replaced by cloud computing (SaaS). As a graduate student majored in telecommunications, I cannot wait to witness the wide usage of software technology in the telecommunication industry and the amazing things it will bring that seem unimaginably fantastic today.

With the curiosity about how one can speak to someone else across the world just by picking up a phone and dialing a number, I chose telecommunications as my undergraduate major at Jilin University (JLU). Through the study of extensive major courses, I gained a systematic knowledge on telecom networks (2G, 3G, LTE) as well as computer networks (TCP/IP). I feel amazed at how signals are transformed by sagacious Fourier transform and carried away between terminals we use everyday. In my sophomore year, the "Introduction to C programming" course opened the gate for me to the software wonderland. Since then, I started to dedicate my spare time to programming related projects and gradually cultivated my interest in this field.

Driven by my keen interest in telecommunication, I continued to pursue graduate studies in Electronic and Information Engineering department at Beijing Jiaotong University (BJTU). After the first two years of hard work, I gained the 1st class rank out of 20 students along with the excellent student fellowship. Because of this, I obtained an opportunity to conduct my thesis, "The Analysis and Software Implementation of Interference Detection Between Different Wireless System and TD-LTE," under my college Dean, Prof. Chen. In my thesis, I analyzed and summarized the coexistence issues among 2G, 3G, and LTE networks after reading 40+ literatures published within the last 5 years.

Throughout my undergraduate and graduate time, I always kept an observation of the IT industry. I believe that software will revolutionize the telecom and networking industry. With the population of VoIP and SMS application, traditional mobile service providers have to make a transition to software companies. Software Defined Network (SDN) and Network Functions Virtualization (NFV) are also making networking devices more configurable, intelligent, and cheap. A great revolution is coming soon, while we need more great software engineers working in the networking industry to expedite the progress. That is a reason why I still want to pursue studies in computer science besides my love of programming.

In the beginning of my second year in BJTU, I started to work as a part-time "networking software intern" at China Mobile (the largest national telecom service provider). I was given the flexibility to choose projects that interested me across multiple development teams. I enjoyed

1 Simply put, Alibaba is like Amazon; WeChat is like Facebook; Didi is like Uber; Baidu is like Google.
2 Cited from Marc Andreessen, cofounder of Mosaic, Netscape, Silicon Valley venture capital (most recently).

working under both agile and scrum development cycles with guidance from a lot of talented and experienced professionals. During the whole internship, I extended and sharpened my skillsets and also learned how a big company solves real problems in a structured way. I was surprised by both the systematic way of problem solving as well as some “magic hacks”.

The first project I was involved with was migrating codes of the Monte Carlo based simulation platform from C to C++, which is used to simulate the interference of multiple other communication systems to LTE system. The benefit of which is because of the extensive C++ features that will make developing more efficient. Though most of the C code can be compiled and work equally in C++, my job is to design and abstract the sub-modules and refactor them into object oriented style coding. My second project was to generate automation tests under a company’s proprietary framework based on Python unittest. The tests were used to analyze and ensure a proper range of interference between TD-LTE and Radar system in 2,300-2,400 MHz under different situations of configured systems. The third project I was involved with was to develop a spectrum management web service under ASP.NET framework that provides availability and information of inquired spectrum band. I mainly designed and developed the front-end of spectrum inquiry input/output page and the interfaces to be integrated with other services. My last project, which was also the most interesting one to me, was to research on empirical algorithms on analyzing and detecting the interference type between different wireless systems and TD-LTE system. After going through the literatures and empirical methods, we came up with a new set of classification methods that can quickly and accurately detect the interference type. I was involved in developing an initial software in C# for company’s internal use, with data stored in MySQL.

In addition to my academic studies, I like hosting events and dancing. I have been the main organizer and performer for all kinds of the school’s performance events. I feel blessed to meet so many good friends during these events. I love the emotion and passion inside me when I am dancing. It helps me to reduce stress as well. In my spare time, I also like to linger on the Massive Open Online Course (MOOC) website to discover some interesting courses. Recently, I found an awesome course on developing websites and it is cool to create my own personal website (http://cutewindy.github.io/).

Though I could obtain offers to work as a programmer or IT consultant in the IT industry, I strongly believe that studying at your program will further sharpen my skills and more importantly broaden my visions to become a great software engineer. I long for the good academic atmosphere at your school as well as the cooperation with innovative companies in the Bay Area. An interview question from Airbnb’s CEO Brian can very well end up explaining my career goal, “If you are diagnosed with only one year left to live, would you take the job?” Yes, I will. I would be happy and proud to work in a life-changing project to make a better world.