# Personal Statement

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Creating a service that improves the quality of life was a goal that I had for years.

I had this dream vaguely from high school years but it became concrete during military service years. I started learning programming from another soldier during a spare time. I started from making a Tetris game with Python and explored other languages and technologies. One day, I encountered a nationwide programming club recruitment called "Likelion" during the military service years and prepared for it. After getting selected as a member of the club, I took a year and a half off from university to focus on growing this club and work on other numerous projects, such as game, web, app development and machine learning.

As I was hunting for all the programming related hackathons during the one and a half year break from university, game development caught my highest enthusiasm among other fields. Although this required the most difficult and diverse programming skills, I never gave up in front of those hurdles. I participated in a Game Jam by Smilegate in 2016 and met wonderful teammates that continued to work together for two more years. During the three days of hackathon, we created a demo version of a puzzle game called Nabla(∇) using Unity and its physics engine and was chosen as best 3 among other competitive games. We continued to finish this game and published it at Google Play Store. Although this did not end up becoming a hit game, this experience allowed me to feel how harsh indie-game development field is and at the same time how a person's passion can overcome this environment.

However, I mainly worked and taught as a web developer during this period. Among many project, a website called "Classlion" that was for rating university courses was definitely the most valuable one in my life. It was also a project that meant to have a powerful support and funding by the owner of the largest programming education organization in Korea, "Likelion". I was chosen by him to compose a four people team and start from a proposal to innovate university course grading community in Korea such as ratemyprofessor.com in US. I learned how it is difficult to create a running website with authentication and search module. However, communicating with the owner that was not interested in the project was the most challenging part. Even though he was the one who requested this project, he was busy taking care of his other projects. In the end, our team was finishing up the website with the full feature in an uncertainty like a dense fog. This project was ironically an incomplete project even though the start was the most promising than any other ones. I loved this project than any other but at the same time had the most pain. This project made me promise myself, one day I will create a meaningful service that help and directly impact a larger population of users in a timely manner.

In between these failures, I was able to carry on learning by achieving a sense of accomplishment from many competitions that I was awarded. One of them was an AWS power user hackathon. I came up with a virtual start-up called Omnisan.com that analyzes and visualizes social data for a game company.

To accomplish the dream that I had which was to create a service that improves people's life, I started a project SKKOOLBUS, a bus tracking app for my university, Sungkyunkwan Univ. I had many challenges with this project, reforming a team twice, funding issue, convincing school employees for getting an access to the bus GPS api and mostly technical issues. The goal was to provide not only the real-time tracking but the real-time expected arrival time. There had been a lot of temptation to stick with a fixed-value for the arrival time prediction but I made this app to calculate it real-time in the server. Now this app is has 6000+ downloads in Google Play Store and Apple Appstore which implies that most of the students and employees downloaded the application considering the university's population.

I could have stayed in my country in Korea and still have a wonderful career in this field, however, I wanted to expand my world. *(I want to find a better phrase)* I applied to pursue a dual degree at Indiana University and was selected. This is definitely challenging mainly because I have to satisfy graduate requirements from both universities in full. However, I chose to minor in informatics to earn the degree related to my interest. I took a data visualization course by YY which was designed for graduate students in informatics graduate school. This course was definitely the most challenging course in my undergraduate year. I finished this course with a multi-variate regression visualization project – "visualizing indie-film". In the process of overcoming the knowledge gap between other graduate students and working on this research project, I was able to be certain that I need to take a data science graduate course. I never got bored learning new idea and skills this course contained.

Outside of studying, I volunteered to teach programming to elementary students from poor families. I strongly believe everyone should have a chance to learn programming regardless of their background and wealth. This also stimulated me from contemplating on how to teach a person with no knowledge on programming.

In short, as a prospective graduate with economics major and informatics minor and a dual degree student, I am looking to utilize my excellent versatility to pursue a research at data science area. I am particularly interested in a regression problem and visualizing multi-variate data to improve the accuracy and functionality of self-created bus tracking application that every student in my university uses.