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After graduating from graduate school, I began teaching students in high school and middle school. There I had access to a lot of data related to students, and I found that the data provided meaningful information as needed. In the process, I realized that I needed a proper way to select and process data and wanted to study more about it. Also, I would like to know how machine learning will be applied to robots that will be established in our society in the future. I entered GSAS of New York University to study more fundamental theories involved in data science.

In my graduate course at New York University, I communicated with a lot of talented people and knew the world was a community. In the class of Data-Science, I was given an opportunity to make a project with my classmates. The purpose of the project was to train an agent to behave like a human, as done for self-driving cars. Data was collected from Open AI Gym CarRacing-v0 game/simulator and the agent was trained via supervised learning. The input data was the raw pixels and the output data were the actions taken. It is a classification problem in which each class is associated with a specific action {LEFT, RIGHT, ACCELERATE, BRAKE}. These actions are essentially our target variable. To implement this project, we discussed the process regularly on Zoom. In the process of this project, I could cooperate and learn the interaction such as common achievement-emotion with other students. This collaborative relationship encouraged us to make a strong bond and was indispensable for me to overcome many adversities such as lack of ability involved in new theories. But I was enjoying it when I tried to overcome these difficulties and pursued the solutions to these problems with my teammates who have a passion for data sciences. Also, I could learn not only the cutting-edge technologies but also making a bond in this field.

I would like to contribute to the programming of customized AI-robots through data analysis, people's needs through socialization, and machine learning. My goal is to advance AI based on data science not only in the U.S. and Korea, but also around the world, to create successful tools for meeting many people's needs and ensuring they live comfortable lives.Furthermore, I hope to learn a foreign language in order to communicate with people the social communication benefits of the robots my teammates and I have created.If given the opportunity, I would love to teach students in this field who have the same passion for mathematics and data science as I do.

At this University, I have improved my knowledge of mathematics and data-science from countless talented professors’ teaching. Throughout this learning process, I hope to interact with other excellent classmates and friends who share my passion for the industry.  So, if I have a chance, I would like to build a strong bond and so I want to cooperate with them in our field. They are meaningful to me. These are the reasons in which I hope to attend New York University.

I’m interested in an artificial intelligence system for predicting well-preprocessing data. I firmly believe that the denoising of data would make it vital to conclude the precise result. I would like to apply the good denoising data and correct conclusions to AI robots which will reap benefits to convenient lives of all around the world. Recently, there are so many state-of-the-art denoising architectures, which have adverse aspects as well as many merits. So, I would like to rectify these disadvantageous factors of the cutting-edge denoising architectures and realize the application of AI robots. Also, I would like to apply the program that combines machine learning to AI by strengthening the security of information exposure, which is a vulnerability of data science.

This PhD program will allow me to build knowledge and develop programs that will enable me to play a pivotal role in applicable machine learning and robot making.