**Statement of Purpose\_Wayne**

Steve Jobs says: Stay hungry stay foolish. This saying has been deeply mounted in my mind. Technology changes every day. A person who wants to stand at the front of this era of technology has to keep mind prepared for changing and for accepting new things everyday. I have been following the saying in my whole college life. I always desire to learn new things and never think that I have known enough.

As a high school student, I conceptually designed a bluetooth hand wear device. In that particular time the smartphones just started to get popular. I noticed the inconvenience of carrying such a big phone. Therefore I came out the concept of a bluetooth hand wear device that is connected to a smartphone and can do the simple tasks for the smartphone with it in a backpack. Following by this class, I found myself like to create and wanted to make something that can solve or improve the experienced problems in our daily life. At about the same time, I got a chance to design my room and I learned about interior design by talking with the designer. This experience developed my interest in the usage of space and aesthetics. Therefore, interior designer or industrial designer had been what I wanted to do. Considering the job opportunities and because of the system of education in Taiwan, I decided to major in Physics just because Physics and Mathematics are the subjects I excelled in high school but not I have passion for. Instead of only focusing on studying Physics, I spend time to explore myself. I joined several clubs, have worked in the United State, and exchanged to Austin Peay State University (APSU).

I took a sculpture class in my sophomore year because studying theories about physics has tired me and I wanted to do something practical. I made a simple mug stand and a wood sculpture as my final project. I dedicated a lot of time on the projects and I am more convinced that I surely love to create something. When I was at APSU, the C++ course developed my passion in coding and my interest in technology. I realized that programming has the trait which combines what I want to do and what I am good at—Creating and Mathematics. When programming, I am creating something from nothing by myself and the process of thinking about the logic excited me. With my education background, love in creating, and computer science skills that I will earned in the future, I believe I can expend my idea much further than the traditional creating skills. Finally, I have decided to study Computer Science as my master degree. To get more prepared, I took Discrete Mathematics and Data Structure and Algorithm Analysis in the following semester at APSU. After coming back to Taiwan, I took Computer Networking and Operating System in the final semester at National Changhua University of Education (NCUE). Furthermore, I also audit an IoT class in National Kaohsiung University of Science and Technology (NKUST). With this experience, I got the chance to get into the Wireless and Mobile Communication (WMC) lab in NKUST. I am currently learning Python and 3D modeling in the WMC lab. Besides, I am also participating the projects that the lab is currently working on.

The YSED Competition is the main project that I am participating in with the WMC lab members. Our project is to develop a button, which we named LoveBeacon(lBeacon), that allows pregnant women to find a seat in a subway cabin. In many countries, there are priority seats in subway cabins, but we think the priority seats should not be limited to those certain seats. Instead, every seat should be able to be priority seat as long as there is a person who needs a seat. However, to define who needs a priority seat can be an easy and hard question at the same time. For sure, a pregnant woman does need a seat, but sometimes, only by appearance, people can not tell whether a woman is pregnant. Besides, sometimes it is hard for a person to ask for help for needing a seat. Therefore, we did some research on the current solution in Japan and South Korea. We found that we can improve their solutions by letting all the passengers be the potential donor of the seats. Line app is the most popular communication app in Taiwan. Since there are more than 90% of Taiwanese Line users, it is the best way to send the seat donation questionnaire with Line. We uses bluetooth and Line app as the communication media within passengers. We developed a robot on the line app basing on line API. With this robot, a pregnant woman is allowed to randomly choose the targets to sent seat-donation questionnaire. In order to not bothering all the passengers in the cabin. The lBeacon only send message to 3-5 passenger at once depending on the amount of passengers in the cabin. When a passenger receive the questionnaire and is willing to give the seat away, the passenger can hit the agree button. Then, on the passenger’s phone screen, it will shows a certain color which match the color of the light on the LoveBeacon, so the passenger can easily to find the woman who needs the seat. Since the questionnaire are not broadcasted to all the passengers, therefore, if the questionnaire was received by a standing passenger, the passenger can hit the ‘pass the love to the next person’ button to pass the questionnaire to the next person in the cabin. However, if a passenger need his or her seat or just doesn’t want to donate the seat, the passenger can hit the ‘need this seat’ button. Then the message will automatically be passed to the next passenger as well.

Working and learning in the WMC lab, I found myself really into the IoT field. One of the project we are working on is car physical wallet. We believe, in the future of smart city, every car will have their own wallet that can be used to pay the parking bill without walking to automatic payment machine but just drive through a sensor and the wallet in the cars will pay the ticket for people by itself. This is regarding to the concept of machine to machine. Car physical wallet is just a tiny part to fulfill the concept of smart city and our government is pushing Taipei, our capital, to become the first smart city in Taiwan. By studying in the UVA computer science graduate program and possibility working for a short period in the USA, I expect to have a strong ability in computer science and the experience necessary to lead my country to a new era. I will apply what I learn in the UVA to my native country. I want to dedicate my ability to help Taiwan to become one of the most advanced ‘smart country’ in the world.

The most important thing that I have learned in college years is that there is nothing that can be completely prepared, so therefore do not excuse one’s self being not well prepared. This is what my adviser have always told me. It does not tell people not to prepare. In the opposite, it tells people to do their best to prepare, but never ever stop because of worrying about not being prepared enough. This has galvanized me to apply for the MS program in Computer Science. Even though, comparing to those students who studied their BS in Computer Science, I have less relative knowledge in Computer Science, but I, however, have stronger background in Mathematics and Physics which can lead me think differently. Besides, I am not afraid of being challenged, and I have a strong passion in programing and solving problems in people’s life.