Why i chose the engineering major

When I was still very young, one day I carefully watched my father as he threw a pebble in the water. It seemed like it was jumping on water! I was obviously intrigued by what I had just observed owing to my little knowledge in science at that particular time. On that day, my father introduced me to the wonderful world of science that is often seen as mysterious by many people. This event heralded a new era in my life.

Since then, I was so much fascinated by scientific things such that all my birthdays and most important holidays were characterized by fantastic gifts such as cars and airplanes from my parents. I always had a deep affection of cars and airplanes as I thought that they were funy and they can move so much faster than human beings. On top of that, airplanes could also fly because they have wings.

As I grew older, I realized that many things could be demystified by science hence my keen interest especially in engineering. Since middle school, I became more interested in computers. Whenever my father was fixing computers, I always carefully watched him. We own three sets of DIY computers and I helped him assemble one of the computers another day. I later assembled the third computer on my own and the feeling of this accomplishment was overwhelming and has since been inspirational. Through assembling computer parts, I learned a great deal of placements of the components and their uses.

Since high school, I did voluntary service at MSKCC and Weill Cornell Medical College where I was introduced to different types of fascinating equipment like the confocal microscope, flow cytometry, PO2 measurement robots and so on. This experience aroused my keen interest in pursuing a career in the field of engineering. It is against this background that I would wish to apply

for a place to study the College of Engineering at Cornell, which has a very fine reputation in the engineering community. Its engineering programs were recently ranked among the top seven in the nation, while its engineering physics program was ranked number one.

My comprehensive curriculum at high school would help me prepare for the challenging courses that will be offered at Cornell. In junior year at Stuyvesant High School, I took AP BC Calculus, AP Physics B and right now I am taking AP physics C and AP chemistry. My average is a 4. 0 and I also took SAT II physics and Math Level 2, which I got 760 and 800 respectively. All these academic achievements bear testimony in my self determination in pursuing an engineering career.

Basically, I would like to use engineering to improve the general health of the public by utilizing nanotechnology to treat patients with cardiovascular diseases. Heart attack is a serious problem because there is no way to prevent it and it also has life threatening impacts. In order to solve this problem, Iwould propose to use my engineering skills gained to design a nano-scale robot that will prevent heart attacks. First of all the entire structure will be a sphere of about 1/10 the size of an epithelial cell. The innermost layer will be a membrane made of phospholipids. The membrane will hold a few antigens that can stimulate the epithelial cells to engulf the robot by phagocytosis without causing immune response. The next layer consists of a spherical structure similar to a carbon buckyball. The structure will hold numerous receptor sights at its joints. Should these receptor sights be activated, the joint will break down and open the buckyball. This structure would be chosen because it is easy to assemble and very light and cost effective. Inside the buckyball structure is yet another phospholipids

membrane that holds lipid dissolving enzymes. The membrane will have antigens attached that stimulate the cell in releasing the enzymes. The enzymes will destroy the excess fat tissue and finally the leftovers of the buckyball will be discarded by the cell into the blood stream where they will be carried to the excretory system.

In order to accomplish such a feat, I would need an in-depth knowledge of engineering. Although this kind of technology does not exist yet, it is my hope that I can make a difference. I am convinced that Cornell’s Engineering School would greatly enhance my chances of realizing this noble invention.