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Type: Motivation letter

Degree: Bachelor

Major: Engineering

University: California Institute of Technology, USA

Everyone knows that it takes both hard work and a good understanding of the subject in order to complete a project. However, I never appreciated the other academic strengths and personal qualities needed until my 11th grade physics final. The task was to create an energy conversion machine that would undergo a minimum of five energy conversions. The construction of the machine piqued my interest in pursuing an engineering career and later became the pivotal factor in my decision to apply to Caltech.

I knew from the beginning that it would be a challenge to complete just the minimum requirements for the project. Believing that my teammates and I had the ability and potential to do better, as the team leader, I made it our goal to cover the conversions of all eight energy types that were taught in class. I also strived to add into the machine a bonus feature of breaking an egg. Struggling to find a solution for breaking the egg, I reflected upon the force of gravity we had learned. This idea led to a trap-door mechanism that would allow the egg to fall under gravity and break upon impact. In addition to excelling in math and the sciences, I am also a strong visual art student.

Enjoying drawing and designing, I gained a different perspective that I may not have had as just a science student. The creativity and imagination from the visual arts allowed me to use toilet paper rolls, Styrofoam, and Popsicle sticks as the primary materials to construct the machine in a limited space within limited time. Together with good planning, coordination, and the ability to work in a team, my innovative perspective from visual arts made this project a success. On the due date, I watched with a prideful glee as the machine

operated smoothly. For going beyond the minimum requirements, the machine was very well received.

Beyond earning an excellent grade, the challenge of completing this project intrigued my increasing interest in engineering. My expectations and goals as a future college student were also evolved during the process. Certain that I wanted to become a professional in the engineering field; I began searching for a college that would provide me with an excellent academic and hands-on experience. While I knew that Caltech is a prestigious science and engineering school, it wasn't until I received the Caltech Signature Award that I developed a stronger interest in becoming a Techer.

Upon further research, I realised that Caltech is the college for me. At Caltech, my engineering aspirations will be realized in this challenging, research-integrated environment. The rigorous coursework and the generous research opportunities at Caltech will provide the challenge I need to achieve my goal of becoming an engineer. In return, I believe the combination of my academic strength and creative professional characteristics will definitely contribute to Caltech and help to add to the interdisciplinary atmosphere of the school.