**Why are you interested in the major you indicated as your first-choice major? (300 words)**

Heat waves and warmer oceans the world is experiencing are telltale signs of global warming. This is one of the reasons for the increasing floods in Indonesia, Pakistan, and other tropical countries. It made me realize the imminent threat of global warming and ignited my yearning to solve global warming using sustainable energy. However, the relative inefficiency of sustainable energy technologies at the moment means that there is still work to do to develop more attractive alternatives.

This motivates me to explore making progress in improving sustainable energy technologies with the hopes of making its mass adoption a reality. During my research on energy efficiency, I was introduced to thermodynamics's Carnot Cycle and energy storage systems. The possibility of achieving an ideal energy conversion and being able to store these converted energy excites me: it means sustainable energy generation can have high efficiency, making it more feasible for mass implementation and adoption.

Whilst looking into new methods of sourcing renewable energy, I discovered tidal turbines. With Indonesia being home to 13,000 islands, there is a huge potential for the implementation of tidal turbines as an alternative energy source to power the electricity in remote islands of Indonesia. Doing so would contribute to reducing Indonesia’s pollution level. Although there are some turbines already functioning, they provide small amounts of energy because the utilization of fluid mechanics is still in the early stages. Understanding dynamic fluids could lead to new designs which harness more kinetic energy, therefore, generating more electricity. This requires a good understanding of what occurs underwater and designing skills to modify the blueprints. For me to be able to do this, majoring in Mechanical Engineering is the best course of action. Pursuing Mechanical Engineering at UT-Austin would enable me to be at the forefront of designing and building highly efficient and technologically advanced devices that use sustainable energy.