**In the past 3 to 4 years, what experience(s) have you had (inside or outside of the classroom) related to your selected first-choice major or academic interest? (150 words)**

My drive to find a feasible form of renewable penetration to the grid led me to investigate the benefits of ‘smart grid’ technology on the efficiency and sustainability of the power grid within my school research paper. I carried out extensive research into integrating smart meters and supercapacitors into the current fossil-fueled electric grid, sparking my interest in exploring its potential implementation in Indonesia.

I continued my smart grid endeavor by pursuing an internship at a local Indonesian electrical consulting company. While simulating a microgrid for Keban, a rural Indonesian island, I realized that electricity cost can often be lower when renewable energy is incorporated into the grid; proving that renewable penetration of the smart grid is, indeed, sustainable. As a feasible and effective alternative, I believe that with the integration of smart systems, I aspire to help Indonesia work towards a more sustainable and efficient electrical grid.

**How does your selected first-choice major relate to your future career goals?  (150 words)**

During my internship at a local Indonesian electrical company, I learned that the heavily coal-reliant country had set a goal to achieve 31% renewable penetration into the electrical grid by 2050. However, I believe that Indonesia can set more ambitious goals; as an aspiring electrical engineer, I want to help my home country do this by increasing smart systems in their electrical grid.

To work towards this goal, UIUC’s ECE 333 course would enable me to look into the possibility of fuel cell power plants as an alternative to existing renewable sources. Using my knowledge from this course, I hope to contribute to the Illinois Center for a Smarter Electric Grid, where I can look into the feasibility of integrating smart technology into an existing grid made for fossil-fuels. This would act as a small model of what I hope to achieve in Indonesia- implementing smart systems in the grid.