*A hallmark of the Columbia experience is being able to learn and live in a community with a wide range of perspectives. How do you or would you learn from and contribute to diverse, collaborative communities? (200 words or fewer)*

After being introduced to the language barrier experienced by Indonesian migrant workers in Oman, I learned of their sense of alienation from their employers in the predominantly English-speaking Omani community. Eager to improve the migrant workers’ sense of community, I initiated a program to breach the language barrier faced by these migrant workers by coordinating weekly online English-speaking lessons.

As we carried out the lessons, the Indonesian phrases embedded in their English, such as “I like to *nonton”*—I like to watch movies— disappeared. Although they still make occasional mistakes, their speech became more fluid with their use of increasingly complex sentence structures. While forming their sentences, they shared their stories and I was surprised to learn something I had not expected. I listened to their struggles of immigration, the battle to rightfully get their visa, and even the domestic employers they were forced to flee from.

Initially, my goal was to simply improve their language skills, but simultaneously, I learned more about my community, the diverse background I come from, and have since become more grateful for my place in it. As their confidence in the language grew, so did their employer’s appreciation and the Omani community’s positive opinion of them. By immersing myself in my Indonesian community, I enabled them to further immerse themselves in the Omani community.

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*Why are you interested in attending Columbia University? We encourage you to consider the aspect(s) that you find unique and compelling about Columbia. (200 words or fewer)*

I believe that the technological improvements of electrical grids could play a major part in transforming our fossil-fuel-driven world. To play my part, I hope to focus my Electrical Engineering major on ‘Smart Electrical Energy’ at Columbia. Wallowed into research on technology to enhance renewable penetration in the grid, I stumbled upon Dr. Roger Anderson’s research, *Smart Grid The Future of the Electric Energy System*, where I appreciated his findings on the potential of implementing IoT (Internet of Things) to increase grid reliability and cybersecurity. To further explore this concept, I look forward to taking Professor Xiaofan Jiang’s class on IoT: Intelligent and Connected Systems, where I hope to delve deeper into the mechanism behind device-to-device communication. This will give me a better understanding on the feasibility of implementing a bidirectional electrical flow in the grid as part of the smart grid. Having received a grant to modernize grid systems, I don’t doubt that Columbia is dedicated to creating a more sustainable grid. With a shared desire to optimize energy systems through smart innovations, I am eager to join Columbia’s drive to shift to a less fossil-fuel reliant grid.

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*For applicants to Columbia Engineering, please tell us what from your current and past experiences (either academic or personal) attracts you specifically to the areas of study that you previously noted in the application. (200 words or fewer)*

After the oil price plunged in 2016, I revisited my childhood home, Brunei, and witnessed the once vibrant orange donkey pump now rusty and stagnant. The downfall of the petroleum industry had upended a country's social setting, and at this point, I knew that it was time for the rise of sustainable energy.

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 to ‘test’ it out 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 lowered 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.