**Tell us why you would like to attend the University of Wisconsin–Madison. In addition, please include why you are interested in studying the major(s) you have selected. If you selected undecided, please describe your areas of possible academic interest.**

*A malfunctioning ammonia sensor and automatic faeces cleaner*: the farm figured it out too little too late. Not until after several batches of chickens contracted disease making them *unfit* for the food industry and leaving my parents’ poultry farm in a huge deficit.

I was stunned how a single pair of equipment malfunction could cause a large-scale setback. Scouring the web to gain insights on supply chain, logistics, and operations, I came across Industrial Engineers: those who perform failure analysis and optimize manufacturing processes using Math; it captivated me.

Indonesia’s demand for chicken per person per year has increased by roughly 70% between 2010 and 2019, and will continue to grow. This leads to the high value potential of poultry farms to become one of the fastest growing industry in Indonesia (*Note: chicken is the most highly consumed meat of the country*). As a result, the demand and use of smart technologies in the operations of the poultry industry, such as feeding and storage, have become increasingly more important. According to *Data Consult*, the production of chicken meat will increase from 2.8 million to 3.7 million tons between 2020 and 2024. As I delved deeper into this topic, I have discovered that automated farms are relatively new to the poultry industry in Indonesia, and not many companies have embraced fully automated farms and are still highly dependent on manual labor. Therefore, I believe that fully automated poultry farms will become the next breakthrough practice and, eventually, become the cornerstone of Indonesia’s poultry industry.

I intend to take advantage of this growing, yet uncharted territory, and prepare ahead of time by learning the necessary engineering methods, skills, and state-of-the-art manufacturing tools, such as quality control and assurance engineering, process optimization, simulation, and project management, through Industrial and Systems Engineering. In addition, my vision is to be able to introduce the Indonesian poultry farms to the new cutting-edge technology and innovations that I will learn throughout college to help me in my career to boost productivity, growth and profitability, and gain advantage over competition.

University of Wisconsin-Madison’s Industrial and Systems Engineering’s curriculum would further my dream to integrate technology into Indonesia’s poultry industry, increase the Indonesian citizens’ prosperity by making chicken meat much more affordable to the citizens of Indonesia, and, simultaneously, scale-up my parents’ farm through effective optimization methods of integrated systems. The Data Management and Analysis for Industrial Engineers course would provide me with extensive knowledge about data management and modelling strategies to tackle real life industrial engineering problems, such as the effectivity of design and optimization in farms, while Engineering Economic Analysis would enhance my ability to make financial decisions through economic analysis, such as capital budgeting, as cash flow is a key factor that will lead to a farm’s profit. I also hope to collaborate with Professor Jeffrey Linderoth in his research on modeling and solving real-world, large-scale optimization problems. I am particularly interested in his research on integer programming and stochastic programming, which are useful for decision making under uncertainty, I believe he could help enhance my proficiency to delineate innovations in solving large scale optimization problems.

Throughout my years in University of Wisconsin-Madison, I expect to not only gain technical engineering knowledge but also a wide range of network of students. I hope to build strong and meaningful connections with members of the Indonesian Student Association at the University of Wisconsin-Madison which will help me throughout my career.

At the Physical Sciences Laboratory, I hope to be involved in cutting-edge research facilities, meet fellow future engineers, and learn from various experts that would certainly broaden my horizon. The Badgers’ collaborative community would support me to build, think, and pave the way for a bright future unbound by limitations. My experience as a Badger would enable me to build essential manufacturing practices, minimize operations error, and scale-up the farm.