**Explain your interest in the major you selected and describe how you have recently explored or developed this interest inside and/or outside the classroom. You may also explain how this major relates to your future career goals. If you're applying to the**[Division of General Studies](http://dgs.illinois.edu/)**, explain your academic interests and strengths or your future career goals. You may include any majors or areas of study you're currently considering. (300 to 400 words)**

*A malfunctioning ammonia sensor and automatic feces cleaner*: the farm figured it out a little too late. At least not until after several batches of chickens contracted a disease and were made unfit to be sold, leaving my parents’ poultry farm in a huge deficit right before my internship there.

I am a regular visitor to the farm myself, though mainly to either drop-off or pick-up my parents. observe its operations, and everything is always in tip-top shape. To witness how the incident put a dent on the farm’s finances I have always known to be intact triggered my train of thought. How a single pair of equipment malfunction was able to cause a large-scale setback made me scour the web to gain insights on supply chain, logistics, and operations. Reading journals about poultry farm operations, I found Industrial Engineers who performed failure analysis as means of optimizing manufacturing processes using Math; I was obsessed.

The Grainger College of Engineering’s Industrial Engineering curriculum would further my dream to scale-up my parents’ farm through the efficient problem-solving of integrated systems. The Facilities Planning and Design course, for instance, would provide me with the essential knowledge in facilities operation, logistics, and computational analysis that could prevent setbacks like automated system failures. On the other side of the equation, the Business Side of Engineering course would equip me with engineering economics and finance-based, decision-making skills to minimize losses resulting from operational setbacks.

Revolving around the production of livestock, the Production Planning & Control Course would serve as a source of inspiration to allow me translate Engineering planning and control principles to a robust yet streamlined manufacturing process for my parents’ poultry farm. I also hope to collaborate with Professor Xin Chen due to his expertise on Applications for Logistics and Supply Chain Management, an influential area of research involving innovative techniques I am keen on learning to address large scale optimization problems.

To be able to intern in the state-of-the-art, Poultry Research Facility at UIUC would equip me in all aspects concerning poultry management research from the production side, environmental management, all the way to biosecurity and other emerging, technological trends.

From pursuing empirical research under the supervision of globally-renowned academics and all the way to leveraging my family-owned, poultry farm’s systemic processes back home, I look forward to the holistic education being a Fighting Illini brings about.

*Hi Octavio,*

*An interesting background you have there! It’s really cool that you’ve been exposed to the farm culture for a long time and I think the passion you have to grow and expand your family’s business really shines in this piece. Great job!*

*- Matthew*