Objectives
The common restaurant business model is unsustainable:
• Understaffed restaurants due to increased labor costs
• Substandard products being used due to spiking food costs.

Motivation
Introduce automation to the service industry to streamline labor costs and provide consistent products to consumers.

Experimental Results
• The current and common restaurant business model is unsustainable.
• Understaffed restaurants due to increased labor costs (wages)
• Substandard products being used due to spiking food costs.

System Design
Conveyor System
• Moves pizza (flattened dough) through topping stations
• Spins pizza to evenly place toppings

Stations
1. Sauce Station
   • Syringe pump system
   • Variable flow capable
2. Cheese Station
   • Shred Cheese on demand for freshness
   • Slider Crank Mechanism design
3. Toppings Station
   • Screw conveyor scalable for various toppings
   • Variable flow rate capable
   • Compact design to ensure ingredient variety

Electrical & Control System
• Velocio programmable logic controller (PLC)
• HMI – Human Machine Interface
• Stepper Motor Drivers
• Constant Surface Velocity Mathematical Control Models (differential equations)