

# Lucas Exarchos

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## Education

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**University of Massachusetts Lowell** – BS in Mechanical Engineering

September 2020 – May 2023

GPA 3.67

## Experience

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**Contracted Mechanical Engineer**, Red's Best – Boston, MA

October 2023 – June 2024

- Designed and built a fish processing conveyor system in SolidWorks within a 9 month contract deadline.
- Led design modifications, managed material procurement, and collaborated for timely construction.
- Fabricated and assembled the conveyor system with custom-machined stainless steel parts, motors, and conveyors ensuring quality and adherence to client needs.
- Transported and installed the completed conveyor system on-site, coordinating with the client to ensure proper setup and functionality.

**Maintenance Technician**, Great Eastern Seafood – Boston, MA

June 2017 – January 2020

- Diagnosed, repaired, and optimized fish processing equipment to minimize downtime and improve reliability.
- Planned and reconfigured factory floor layouts to enhance workflow efficiency and integrate new equipment.
- Designed and fabricated custom machine components to improve performance and replace failing parts.
- Performed preventive maintenance, troubleshooting, and assisted in equipment installations and relocations.

## Projects

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**Juniper Networks Sponsored Capstone: Thermal Test Chamber**

- Designed and built a modular thermal test chamber for networking equipment, reducing manufacturing costs by 75% (from \$20,000 to under \$5,000) with a team of five engineering students.
- Led efforts to enhance the chamber's modularity and palletization, allowing easy transport between sites while maintaining functionality and original specifications.
- Developed and implemented a RACI chart and Gantt chart to clearly define project roles and timelines, ensuring efficient team collaboration and on-time delivery.
- Delivered a comprehensive design package and assembly procedures, documented using SolidWorks Composer, to support future manufacturing and assembly processes.

**Injection Molded Plastic Fan Design**

- Designed a plastic fan in SolidWorks specifically for mass production through injection molding.
- Conducted mold flow analysis in Autodesk to optimize manufacturability, minimize deflection, and determine fill and injection times.
- Performed structural analysis on failure points using Abaqus FEA, validating results with hand calculations.

**TES Design for CHW Capacity and Energy Savings**

- Evaluated four Thermal Energy Storage (TES) systems under consideration by UMass Lowell to increase chilled water plant capacity, accommodate future cooling loads, reduce peak electrical demand, and achieve energy cost savings.
- Developed MATLAB code to perform economic analyses, including calculating payback periods and creating cash flow diagrams, factoring in capital costs, operational expenses, savings, and payback durations.
- Led a team of three in using MATLAB for simulations and data analysis, delegating tasks to ensure deadlines were met.

## Skills

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**CAD/Analysis:** SolidWorks, Mastercam, Autodesk Moldflow, Abaqus, Ansys Mechanical, Autodesk Fusion.

**Coding:** MATLAB, Simulink, LabVIEW, Python.

**General:** Google Workspace, Microsoft Office, 3D Printing, GD&T, DFSS, Machining.