

# John Hernandez

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## EDUCATION

**University of Illinois at Urbana-Champaign**  
Bachelor of Science in Mechanical Engineering  
Minor in Mathematics

May 2023  
GPA: 3.99/4.0  
Dean's List

## WORK EXPERIENCE

**Belden Inc, Cable Manufacturing** | *Operations Engineering Intern* May 2022 - August 2022

- Evaluated the tension consistency of multiple cabling machines to explore options into a tension control feedback loop for operators to gain automated control over the process, while researching solutions from external sources
- Investigated volume measurement abilities in 10000-gallon mixing tanks utilizing pressure gauges, distance sensors, pressure transducers, and manual measurement methods to corroborate accuracy and precision
- Updated the existing floor plan to aid in the \$4.5 million transformation of multiple manufacturing cells and redevelopment of 200000 square feet of manufacturing space

**Technipaq Inc, Flexible Pouch Manufacturing** | *Engineering Intern* May 2021 - August 2021

- Oversaw the initial operation and setup of a new pouch making machine, while adjusting its settings and orientation to match the specifications of desired products and quality assurance
- Performed multiple design of experiments to validate the tensile strength of various material combinations with varying pressure, temperature, and dwell
- Created documentation lessons for the maintenance and operation of the converting machine, such as the details of each HMI interface, the threading of material through the machine, and the operation of the unwinds

## TECHNICAL PROJECTS

**Mechanical Walker Project, ME 370** August 2021 - December 2021

- Created a walking robot using linkages, cams, gears, and a singular DC motor with limiting parameters
- Assisted in the modeling and simulation of the linkage system in Creo Parametric, the dynamic force and PVA analyses within MATLAB, the 3D printing of the linkages, and the walker testing/assembly

**Computer Aided Design, ME X70 Projects** August 2019 - December 2020

- Modeled a lid for existing trash cans that can compact its contents to improve the dining hall waste management on campus, and delivered a CAD model within Creo Parametric (ME 170)
- Designed an assistive device for people with disabilities to use a tube of toothpaste with one hand, and assisted with the modeling, design, and presentation of the idea with Creo Parametric (ME 270)
- Created engineering drawings for the models using ANSI standards and tolerances

## INVOLVEMENT & LEADERSHIP

**Office of Admissions** | *ISTAR – Campus Tour Guide* January 2022 - Present

- Led tour groups across campus giving personal experience, coursework explanations, and admissions information
- Participated in student panels, phone duties, check-in shifts, and information sessions to help prospective students

**Theta Tau, Professional Engineering Fraternity** | *Projects & General Member* September 2020 - Present

- Collaborated with projects committee to create a self-drawing Etch a Sketch for Engineering Open House
- Modeled and 3D printed a housing and gears for the Etch a Sketch to operate using SolidWorks

**Engineering Outreach Bureau** | *Department Chair* August 2020 – May 2022

- Contacted engineering departments and compiled information for Grainger Engineering Days, an event for prospective students, while reaching out to organizations to present their STEM projects and clubs

## Technical Skills and Other

- Creo Parametric, SolidWorks, MATLAB, Python, R, Minitab, 3D printing