

Eriq C. Lucero

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Education

University of Illinois at Urbana-Champaign

December 2020

Bachelor of Science in Systems Engineering & Design

GPA: 3.23/4.00

Field Specialization: Internet of Things and Computer Engineering

Relevant Coursework: Engineering Graphics & Design, Operations Research, Finite Element Analysis

Work Experience

Mapes and Sprowl Steel- Union Partner's Group LLC

May 2020 - Present

Engineering Intern/ Quality Assurance, IoT, & Manufacturing

Elk Grove Village, IL

- Created an SQL Database to monitor furnace temperatures and speeds to validate proper specifications
- Outlined a furnace nitrogen line in 2D modeling with DraftSight to prevent oxidization in electrical steel
- Programmed a UI application in C# to graph and analyze furnace and slitter runtime and temperatures
- Monitored quality of electrical steel through Epstein testing and evaluated factors such as Core Loss and Peak Permeability to ensure customer satisfaction
- Achieved 15% in time efficiency in slitter runtime and corrected 200F for modification

Langan – A Premier Engineering & Environmental Consulting Firm

Summer 2017

Engineering Intern/ Construction Management

Oakland, CA

- Learned civil engineering certifications and standards from ASTM to guarantee quality to customers
- Analyzed soil contents how to build a stable base utilizing information through ANSYS
- Composed structural designs with civil engineers and architects with follow-up evaluations in 3D CAD

Project Highlights

Ardi Automation 2.0 (Personal Project)

Summer 2017 - Present

- Applied Amazon Alexa API to voice activate devices connected to the Arduinos
- Included Arduino controlled security cameras and alarm system to ensure safety of family
- Designed an automated Arduino irrigation system based on online weather predictions and routines with a series of laundry pumps and barrels to collect rainwater and water plants
- Resulted in 15% water bill reduction during summer seasons

Senior Engineering Design Project (Team Project)

Fall 2020

Agri-Fab - Engineering Consultant

Sullivan, IL

Bernt O. Larson Award Winner

- Guided team of 3 with fluid mechanics research to ensure understanding of obstacles and results
- Analyzed prototypes in ANSYS Fluent to perform fluid flow simulations and CFD analysis
- Designed CAD concepts using Inventor to vary parameters and dimensions of prototypes
- Performed Design of Experiments through Minitab to examine prototype efficacy and identify significant variables
- Achieved 53% velocity increase for recommended impeller, superseding desired performance of 10%

Mechatronics Segway Bot

Spring 2020

- Constructed a balancing Segway bot with TI's MSP430 Chip to learn about SPI and I2C communications
- Modified various stiffness (K) values in MATLAB and LabVIEW to maintain robot stability
- Created 3D robot design through CAD to constrain and personalize project robot

Leadership

Latino/as in Computer Science

January 2017 – December 2020

Secretary

Champaign, IL

- Founded organization's website: latinxcs.illinois.edu to publicize and share among students
- Collaborated with CS department for financial investments to fund events, company meets, and activities resulting in 50% increase in member count and 40% more collaborations with other organizations
- Coordinated with two LCS members to develop a resume review system to promote good resume etiquette

Skills

Software Languages: Java, HTML, Java (Mobile Dev), Python, C/C++/C#, SystemVerilog, IEEE 488.2

Applications: MATLAB, Inventor, ANSYS, LabVIEW, MySQL, Microsoft Office, Minitab, EagleCAD, DraftSight, Quartus, Simulink, Fluent