ALEXIS ANDAVERDE

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EDUCATION

Doctor of Philosophy in Industrial Engineering August 2024-Current
FAMU-FSU College of Engineering
Florida Agricultural and Mechanical University

Master of Science in Engineering Management GPA: 3.83 May 2024
College of Engineering and Computer Science
University Texas Rio Grande Valley – Edinburg, Texas

Bachelor of Science in Industrial Engineering GPA: 2.61 May 2021
Ingram School of Engineering - ABET Accredited Program
Texas State University – San Marcos, Texas
Minor in Applied Mathematics / Music

THESIS

DEVELOPMENT AND ANALYSIS OF PRACTICAL DECISION SUPPORT TOOL IMPLEMENTATION: CASE STUDIES FROM SMALL BUSINESS TO LARGE GOVERNMENT ENTERPRISE AUGUST 2024

- This thesis demonstrates the critical role of decision support tools (DSTs) in both small business and large government operations, enhancing decision-making, operational efficiency, and economic benefits. By implementing Excel-based systems for small businesses and discrete event modelling for large enterprises, this research highlights the importance of adaptable and scalable solutions across various sectors.

PUBLICATIONS

IISE Conference Proceeding May 2023

- "Development of a Small-Business Data Management Pull System; A Case Study" – In this paper I showed the need to help small businesses with management of their data. A local used car dealership was used to outline the system that was developed in excel. This system created a template for them to input all necessary data and track all expenses and profit made per vehicle which allowed for a quick analysis of all major KPIS's for the company.

SKILLS AND CERTIFICATIONS

- Software – R, Python, Tulip, Trello, QAD, Agile, AutoCAD, SolidWorks, Arena, Minitab, Smartsheet, Microsoft Office, ExtendSim, Canva, Lumafusion, C++, Prince 2, Camtasia, Simio, AnyLogic, Fluent in written and verbal Spanish
- ExtendSim Advanced Certificate October 2023
- TPM Level 0 Certified July 2023
- Six Sigma/Lean Green Belt October 2019

RELEVANT COURSEWORK

- Lean Engineering, Supply Chain Analytics, Logistics Engineering, Developing Customized Business Solutions, Optimization of Industrial Systems, Health Care Analytics, Engineering Project Management, Engineering Management
- Operations Research, Probabilistic Operations Research, Linear Algebra, Supply Chain, Facilities Planning, Manufacturing Systems Design, Integrated Production Systems, Systems Engineering, Economic Decision Analysis

WORK EXPERIENCE

Research Assistant (FAMU-FSU College of Engineering) Fall 2024-Current

- Currently Researching different areas of discrete event modeling with a focus on health care operations.

Teaching Assistant (Fall 2024-Senior Design 1) Fall 2024-Current

- Assist in grading senior design groups and checking their kanban boards to ensure proper delivery time of required deliverables
- Oversee four different groups working in varying areas of Industrial Engineering

MSIPP-DOE Graduate Fellow Savannah River National Laboratory (SRNL, Aiken, South Carolina) August 2023-August 2024

- One of eleven fellows selected across the country for the inaugural year.
- Using simulation software such as Extend Sim to simulate the current state of nuclear deposit process.
- Developing a linear programming model to determine the optimal path for different sites across the country to deposit their nuclear waste while keeping cost, distance, and regulation taxes in mind.

Industrial Engineering Intern (Continental Automotive, New Braunfels, Texas) May 2023-August 2023

- Supported the maintenance department in preventive maintenance and troubleshooting issues.

- Helped facilitate the revival of the Total Productive Maintenance courses taught onsite.
- Developed a spreadsheet which tracked the eligibility of all workers interested in the courses by writing if statements which resulted in true or false statements whether the worker was hired before a changing date or not.
- Created work instruction videos and workbooks for operators on the production floor.

Teaching Assistant (Fall 2022 – Facilities Planning, Spring 2023 – Operations Research) September 2022-May 2023

- Assisted in teaching undergraduate students, facilitating discussions, providing guidance to students, and proctor examinations.

Graduate Assistant (University of Texas Rio Grande Valley, Edinburg, Texas) February 2023-May 2023

- Conducted office duties in the Manufacturing and Industrial Engineering Department
- Assisted in tracking budgets and finances for the department.

Industrial Engineering Intern (Laerdal Medical Supply, Gatesville, Texas) October 2021-October 2022

- Used Solid works to remap and restructure entire cell layout for a more streamlined flow of production.
- Used Lean techniques and principles to optimize space and create the most ergonomic environment for the workers while reducing the total cycle time down 20%
- Created a vision system with industry 4.0 software Tulip which will create real time tracking of our shipping area.
- This app would create a system that would have all the necessary inventory in stock within the week compared to 2 weeks.
- The new design of the cells reduced the number of steps needed to retrieve parts by over 30% and the time spent looking for parts by 20%.
- Created spaghetti diagrams of the current route that the operators take when retrieving inventory, created a new rack configuration to store the maximum amount of inventory in the area while considering limited space, ceiling height and aisle width.
- The new layout will bring a total reduction of 40% of steps needed for the retrieval of parts in a current load. Other changes were made in the process that the shipping department handles their procedures.
- A unified picking process was proposed along, currently in progress is an optimal placement of inventory based on demand is being analyzed.

UNDERGRADUATE SENIOR DESIGN PROJECT

Senior Design (Signify, San Marcos, Texas) August 2020 – May 2021

- Recorded multiple time studies for work-center 3095 to improve overall labor effectiveness. Worked on ergonomic improvements to reduce any possible injuries that may occur to the workers. Collaborated with my team to create a new design for the assembly line resulting in a reduction of non-value-added time and increased productivity.

AWARDS AND HONORS

- Invited presenter at the Annual Engaged Scholar Symposium April 2023
- Outstanding graduate student in the department of Manufacturing and Industrial Engineering March 2023
- 3rd Place overall poster presentation in technical content for the Equity in Engineering Summit March 2023
- 1st Place overall poster presentation Manufacturing and Industrial Engineering Department Engineering Week February 2023

VOLUNTEER SERVICE

Alumni Advisor of the Rho Chapter for Omega Delta Phi January 2024-Current

- Provide guidance and leadership advice to undergraduate/graduate/ and prospective members
- Delegate between the alumni and active house of the chapter
- Facilitate conversation from the national executive council and the current active house of the chapter

Engineering Student Advisory Council Mentoring Program September 2023-August 2024

- Cultivating a sense of community and empowerment for incoming Hispanic engineering students. I have been guiding a first-year engineering student with weekly meetings, reviewing their resume, providing guidance on academic and professional career choices.

Finance Chairman for the Central Texas Region of Omega Delta Phi Fraternity July 2022-September 2023

- Oversaw the finances of 11 entities throughout the central Texas region. Ensured each chapter treasurer met payment deadlines and assisted with customized spreadsheets to help track all expenses for each chapter. Developed plans for fundraisers and strategic management of money for the entities.

OTHER SKILLS

Mariachi Band Manager September 2015-August 2023

- Teaching Skills: Instructed in workshops for middle school and high school students by working one-one with students and developing a sense of teamwork amongst themselves.
- Time Management: Balanced a full-time student status and full-time work schedule while completing all tasks presented to me.
- Networking: Responsible year-round for scheduling shows and performances that included constant communication

with my band members and necessitated vital communications skills with wedding planners and businesses.

ORGANIZATIONS

- Tau Beta Pi – Texas Nu Chapter — April 2023
- Omega Delta Phi Fraternity Rho Chapter — May 2021
- Institute of Industrial and Systems Engineers — January 2019-Current
- Decision Sciences Institute — September 2022-Current