

HECTOR N. CORREA

HOUSTON, TX

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SUMMARY

Recent Mechanical Engineering graduate with hands-on experience in design, calibration, and project collaboration. Proficient in AutoCAD and Fusion 360, with a track record of enhancing system performance and reliability. Successfully developed work instruction manuals and improved assembly guidelines, reducing production errors. Eager to leverage skills and expertise to drive impactful outcomes in a dynamic engineering environment.

EDUCATION

Texas A&M University-corporis Christi

Mechanical Engineering Technology

3rd Place in CAPSTONE Project out of 20 contenders at Texas A&M University- Corpus Christi

SKILLS

- FEA analysis, AutoCAD, Word, Excel, Inventor, Fusion360, MATLAB, PLC, Mechanical Systems Design, Electro-Mechanical Systems

WORK EXPERIENCE

Texas A&M University Corpus Christi

Applied Control Systems Lab

Jan 2024 - Apr 2024

Corpus Christi, TX

- Designed and implemented a user interface in LabVIEW with 20 controls (buttons, knobs, sliders) and 20 indicators (graphs, charts, numeric displays) to interact with and display program states.
- Improved operational efficiency of DC motor by decreasing system overshoot by 10%, increasing system accuracy
- Developed functional logic in LabVIEW using multiple block diagrams and implemented repetitive and conditional execution with For and While loops, reducing signal processing time by 25%.
- Designed and simulated control systems using MATLAB, employing state-space models and step input responses to analyze system behavior, leading to a 20% improvement in response.

Texas A&M University Corpus Christi

Capstone Project

Jan 2023 - Dec 2023

Corpus Christi

- Managed a project budget of \$1000, ensuring all milestones were met on time and within financial constraints.
- Conducted Finite Element Analysis (FEA) simulations on 10+ different claw designs to ensure optimal performance
- Created 10+ detailed 3D models of end effectors using AutoCAD and Fusion 360.
- Produced technical documentation spanning 30 pages to support the design and implementation process.
- Utilized Fusion 360 to reduce prototype development time from 12 months to 8 months.
- Leveraged expertise in 3D modeling software, specifically Fusion 360, to design and craft over 25 detailed renderings of the end effector.
- Collaborated closely with a team of 6 project members to ensure the seamless production and implementation of the designed end effector, achieving project objectives ahead of schedule and under budget by 50%

Relevant Power Solutions

Mechanical Engineering Internship

May 2023 - Aug 2023

Houston, TX

- Applied reverse engineering techniques proficiently to accurately model a pipe spool using AutoCAD, creating detailed designs for 200 feet of piping for the LM6000. Gained Knowledge of pipe and pipe schedules, flanges and fittings.
- Employed AutoCAD for annotation and marking impacting over 100 assembly units facilitating improved assembly guidelines and reducing production errors.
- Assisted in the development of the Engineering Review process for upcoming interns, spanning 30 pages., streamlining the onboarding for future new hires.

American Jereh International

Mechanical Engineering Internship

Jun 2022 - Aug 2022

Houston, TX

- Played a key role in transcribing data and facilitating input for TITAN fleet load test, contributing to accurate analysis and decision-making processes, leading to a 10% improvement in test accuracy.
- Compiled a detailed report of over 20 pages documenting the performance and maintenance of frac pumps.
- Inspected frac pumps during operation, improving equipment reliability and safety
- Led engineering orientation for Apollo Turbine-driven Frac pumper, enhancing team cohesion
- Supervised the testing of 10 new frac pumps, ensuring compliance with safety and operational standards.
- Knowledge of piping and pipe schedules, flanges, fitting used in Hydraulic installation into bank valves to 10+ BJ Turbine Driven Frac Pumps.