Alejandro Pasillas

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Education

THE UNIVERSITY OF TEXAS AT DALLAS Richardson, TX
Bachelor of Science: Mechanical Engineering, GPA:3.648, Cum Laude May 2021

Skills

CAD/Software: SolidWorks, Creo Parametric, Abaqus CAE, ANSYS Workbench
Programming: R, Robotic Programming, MATLAB/Simulink, Python, object-oriented programming
Technical Skills: Geometric dimensioning and tolerancing, static/dynamic analysis, computer aided modeling, transient thermal analysis, energy analytics, hands-on hardware design

Experience

FIRST COMPANY Dallas, TX
Engineering Internship Fall 2020

- Optimized a UR-10 robotic arm to TIG weld steel inserts into steel drain pans by programming the arms movements and utilizing the robots force sensor to calibrate itself and deliver quality welds.
- Performed dozens of preliminary tests with the robotic arm, gathered data for improvements, documented and communicated critical findings to engineers and supervisor.

METROLOGY/ NON-DESTRUCTIVE INSPECTION College Station, TX
Engineering Research associate Summer 2018

- Assembled an MQL setup used to generate mist flow through a transparent drill bit to capture flow images under various spindle speeds, passage geometries, and flow settings, which are processed through particle image velocimetry.
- Participated in a 10-week immersive research program funded by the National Science Foundation.

Projects

NASA ACADEMY Hampton, VA
Research Intern Summer 2021
Payload Team Member

- Examined the needs for wildfire management and the application of NASA technology through a 10-week summer program.
- Applied openCV to recognize smoke plumes and flames for early wildfire detection.
- Surveyed subject matter experts, interviewed wild land firefighters, and reviewed current literature to propose an innovative technology to aid in the increase of wildfires.

CAPSTONE PROJECT Dallas, TX
Engineering Team Lead Fall 2020 – Spring 2021

- Designed a thermal management system for a high-powered electronics device powering two integrated circuits to 75 W and 10 W over a 0.19 in^2 surface area constrained to a maximum temperature of 95°C within nine-minutes of operation.
- Spearheaded a team of six-engineering students through the project's major milestones logging over 240 hours of time over the course of 32 weeks.
- Coordinated with client, technical manager, and other shareholders through weekly meetings via Microsoft teams.

Activities

L'Space NASA Proposal Writing and Evaluation Experience Academy, *Certificate of completion* Fall 2020
L'Space NASA Mission Concept Academy, *Certificate of completion* Spring 2021