

# Ignacio Duarte

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## Education

### University of Texas at El Paso

BS in Mechanical Engineering | Minor in Mathematics

Anticipated: Fall 26

- GPA: 3.43/4.0

- **Coursework:** System Dynamics, Thermodynamics, Fluid Mechanics, Additive Manufacturing, Mechanical Computational Application in Vision and Robotics, Mechanics of Materials, Mechanical Design

**Awards & Affiliations:** Dean's List (4 semesters) | SHPE | Themed Entertainment Association

## Experience

### Operations Intern - Bio Digester System

Franco & Associates

Summer 2025

Cd, Juarez - El Paso, TX

- Operated anaerobic biodigester systems, including pump, agitation, and blower equipment to optimize biogas production
- Collected and analyzed gas composition data to ensure compliance with quality and safety standards
- Assisted with fuel distribution routing biogas to on-site system and troubleshooting combustion issues
- Coordinated and logged organic waste deliveries while ensuring safe unloading and handling procedures

## Leadership and Volunteer Experience

### President,

Student-Led Environmental Stewardship Initiative

08/2020 – 07/2022

Cathedral High School El Paso

- Led and Coordinated Team of over 60 students
- Created a Project Proposal which was approved by the Environmental Protection Agency
- Secured \$10,000 grant from the EPA to address environmental issues within El Paso
- Spearheaded a Land restoration project that identified and addressed environmental issues in wetlands
- Implemented data collection methods for ecological analysis for publication

### Operations Chair

Engineering Student Leadership Council

Aug 2025 - Aug 2026

UTEP College Of Engineering

- Promoted the professional & academic development of over 5000 Students in the College of Engineering
- Coordinated Events and Activities for all Engineering students
- Facilitated and sought funding for 50 engineering organizations

## Projects

### Filament Recycler Greenfund by UTEP

- Collaborated with a team to design a Processing Line for the Recycling of over 25 Kg of used PLA
- Worked and Troubleshoot a PID Heating system to allow for continuous melting of materials

### Water Nozzle Keck Center For 3D Innovation

- Independently designed, tested and troubleshoot a water nozzle to given spec as part of Additive Manufacturing Course Held at the Keck Center a premier research hub for additive manufacturing and 3D printing technologies.
- Tools Used: Fusion 360, MakerBot

## Tecnical Skills

**Programs:** Fusion 360, SolidWorks, Python, Matlab (Robotics Tool Box), Microsoft Office Suite, Latex, Blender, Git/GitHub, PID Control, Inverse/Foward Kinematics, Trajectory Planning,

**Technologies/Skills:** CAD Modeling, CNC - Lathe/Mill, FDM/SLA Printing, FAE, Stress Analysis, Arduino

**Languages:** Native In Spanish & English