

HELIO TCHIPOQUE

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Multilingual mechanical engineering graduate with manufacturing and research experience and 3D modeling skills seeking a full-time opportunity in the Engineering Field.

EDUCATION

Bachelor of Science in Mechanical Engineering, Mathematics Minor, **GPA 3.5**
University of Houston, Cullen College of Engineering - Houston, Texas

December 2021

SKILLS

AutoCAD, MATLAB, SolidWorks, fluent in English, Portuguese, and Spanish

RESEARCH EXPERIENCE

Robotics/ROV Research Project ([link](#)) - University of Houston

June 2021 - August 2021

- **Co-authored** research to provide a framework for implementing dynamic modeling and control to allow various forms of actuation input Device with a team of 7 and **published** to the Society for Optics and Photonics's Electroactive Polymer Actuators and Devices (EAPAD) XXIV Conference.
- Fabricated and tested Dielectric Elastomer Actuators (DEA), measured the pressure applied by the DEA to all components of the device, and analyzed the results acquired during experiments to create a Dielectric Elastomer Enabled Actuator Cuff Device to perpetuate an earth-like blood circulation in Space.
- Used **MATLAB Simulink** to run a circuit and control the voltage and frequency applied to the DEA and collected data from a dSPACE MATLAB.

RELEVANT PROJECTS

Space Saver Greenhouse Project - University of Houston

January 2021- December 2021

- Designed a greenhouse, resulting in a more space-efficient and miniature greenhouse than current NASA designs saving approximately **104.97 cubic inches**.
- Leveraged the research of space horticulture techniques from the International Space Station to design a greenhouse with an optimal environment for growing red romaine lettuce.
- Coordinated schedules of 4 team members and delegated tasks to ensure efficient progress of the project.

Sorting Device Project – University of Houston

January 2020 - May 2020

- Designed a sorting device using **AutoCAD** and **SolidWorks** capable of sorting metal disks, plastic disks, and dice from sand.
- Used SolidWorks simulation to process the lifting of the sand, metal disks, plastic disks, and dice with the pulley, releasing them, and starting the sorting.

Pratt Truss Project– Houston Community College

January 2019 – May 2019

- Analyzed and calculated the loads in each truss member after a load is applied utilizing the methods of joint and section. Compared results for a more precise conclusion, giving a **0.02% Error**.
- Competed and won *Best in Class* for the lightest truss(2.58 kg) to withhold the highest load (35 kg).
- Modeled in **AutoCAD** the device and added appropriate dimensions for the truss.
- Built truss with balsa wood using laser cutting technology, allowing the truss members' more precise and detailed cut.

CERTIFICATION, AWARDS & ACTIVITIES

- Oil and Gas Industry Operations and Markets Certificate **October 2021 – November 2021**
- National Society of Black Engineers (NSBE), *Member* **January 2020- Present**
- Society of Hispanic Professional Engineers (SHPE), *Member* **May 2021 - Present**
- Iglesia Bethel Church, *Marketing Lead Volunteer* **January 2017-July 2020**
 - Utilized Spanish speaking skills to lead media team and communicate with the public.
- Excellence Transfer Scholarship, University of Houston **August 2019**
 - Awarded to transfer students with a GPA of 3.5+