trueba.mit.edu

Luis Trueba

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Profile

I am an engineering student at the Massachusetts Institute of Technology hoping to build experience in the field of mechanical engineering by working with experienced engineers to solve problems in a professional environment.

Education

Massachusetts Institute of Technology; Fall 2016–Present
Mechanical Engineering, Concentration in Controls, Instrumentation, and Robotics
Expected Graduation: June 2021

Work Experience

Robotics Intern at Dexai Robotics — June 2019 – Present
Designed, built, tested, and iterated on a variety of mechanisms for robots designed to work in the food service industry. Quickly produced high-quality CAD models and physical prototypes to effectively validate design choices in a rapid development environment.

Undergraduate Researcher at MIT CSAIL Distributed Robotics Laboratory — September 2018 – January 2019
Designed and built testing apparatus for soft robotic grippers, using CNC machining and 3D printing methods.

Undergraduate Research Assistant at University of Texas of the Permian Basin College of Engineering — June 2018 – September 2018
Created parametric CAD, ran dynamic simulations, and 3D printed an apparatus for demonstrating the effects of resonance in sucker rods on industrial oilfield pumping units.

Undergraduate Researcher at MIT CSAIL Computational Fabrication Group — June 2017 – December 2017
Created a library of parametric CAD models, ran Finite Element Analysis simulations, wrote code, and prototyped hardware for a set of robots used to demonstrate algorithms for parametrically constructing carpentered furniture.

Extracurricular Activities

MIT Rocket Team — Member (Fall 2016 – Present), CAD Lead (August 2018 – Present)
Worked with a team to design and build a solid-fueled rocket to reach 70,000 feet in altitude. Designed and built a combination motor test stand and launch tower for the purpose of completing field operations on the rocket. Organized, maintained, and administrated the team's large rocket Solidworks assembly that was contributed to and iterated upon by a large group of people. Lead Solidworks training sessions to introduce new members to the process of computer-aided design.

Publications

- Chin, L., Yuen, M., Lipton, J. I., Trueba, L. H., Kramer-Bottiglio, R., & Rus, D., "A Simple Electric Soft Robotic Gripper with High-Deformation Haptic Feedback," *2019 IEEE International Conference on Robotics and Automation (ICRA)*, Montreal, 2019

- Lipton, J. I., Schulz, A., Spielberg, A., Trueba, L. H., Matusik, W., & Rus, D., "Robot Assisted Carpentry for Mass Customization," *2018 IEEE International Conference on Robotics and Automation (ICRA)*, Brisbane, 2018

Honors and Certifications

- CSWP (Certified SolidWorks Professional) — Mechanical Design, Advanced Sheet Metal, Advanced Drawing Tools
- National Hispanic Recognition Program Scholar
- AP Scholar with Honor
- Salutatorian of High School Graduating Class

Skills

Knowledgeable and capable of manipulating, modifying, and maintaining electromechanical systems.
Experienced in prototyping, manual and CNC machining, and computer-aided fabrication including laser cutting, waterjet, and 3D printing.
Proficient in: Solidworks, Autodesk Inventor, Onshape, Blender 3D, LabVIEW, Adobe Creative Suite, Final Cut Pro, Microsoft Office.
Comfortable working in Windows, Mac OS X, and Linux environments.

Examples of past work available on website.