

Victor M. Soto Castro

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(919) 408 – 6046

Education:

Tufts University, School of Engineering, Medford, MA | *July 2018 – 2022*

B.S. Mechanical Engineering, Cum Laude

QuestBridge Scholar | Golden Door Scholar | Tufts Summer Scholar

Technical Skills:

CAD: SolidWorks, Onshape, KiCad, PADS

Simulation: Ansys FEA/CFD, COMSOL CFD

Programming: Python, Matlab, R, NI TestStand,

Tools: Jira, ClickUp

Manufacturing & DFM: Machining, 3D printing, sheet metal, EDM, water jet and laser cutting

Documentation: Engineering drawings, GD&T, BOMs, ECOs, design reviews

Experience:

Mechatronics Engineer

Nielsen-Kellerman | *Aug. 2023 – July 2025*

- Led mechanical design of an 18-ft recirculating wind tunnel for product testing; performed CFD analysis (Ansys) to optimize airflow through key sections, and integrated test system into production line
- Designed a custom desktop pneumatic press for assembling plastic screen modules at 500 parts/day throughput; developed safety and control systems with pneumatic solenoids, solenoid valves, timer relays, and redundant safety measures; designed in SolidWorks
- Developed heat-set insert press using thermal simulation of custom machined brass heating block and tolerance stack-ups; increased precision in assembling injection-molded parts
- Created SolidWorks templates and PDM workflows to automate test fixtures design; reduced design time by 70% and improved repeatability
- Designed 18+ custom mechanical fixtures to improve production assembly; collaborated with assemblers for design validation and process optimization
- Wrote Python scripts for data parsing and statistical process control; improved traceability and decision making in product QA
- Troubleshoot electro-mechanical issues and led root-cause analysis on automation systems

Deployment Engineer

RightHand Robotics | *July 2022 – Jun. 2023*

- Performed field deployments of robotic picking systems across multiple customer sites; ensured 100% success rate in installs, calibration, and hardware integration
- Collected system performance data and provided feedback to engineering and support teams for continuous improvement

Engineering Research Intern

National Fire Protection Association | *Nov. 2021 – July 2022*

- Researched fire safety and loss statistics in animal facilities; conducted literature reviews and compiled engineering reports

Research Assistant

Space Telescope Science Institute | *Jun. 2021 – Aug. 2021*

- Developed Python tools to analyze image resolution trade-offs in infrared telescopes; supported early-stage design for future space observatories

Research Assistant

Tufts University, Astronomy and Physics Department | *Jan. 2019 – Mar. 2021*

- Analyzed galaxy formation trends using multi-wavelength data; wrote python scripts to process astrophysical datasets and produce publication-ready visualizations

Leadership & Community Engagement:

Board Member

Society of Hispanic Professional Engineers (SHPE) Greater Philadelphia Chapter (GPC) | *Aug. 2024 - Present*

- Support programming outreach and engagement strategies to connect local professionals, students, and community members in the Greater Philadelphia area

Career & Academic Mentor

Tufts University FIRST Center & QuestBridge Career Mentorship Program | *Aug. 2023 - Present*

- Provide guidance, support, and career planning to undergraduate engineering students at Tufts, MIT, and CalTech with the goal to improve their college experience and professional development