Victor Soto Castro

vmsotocastro@gmail.com

Tufts University, School of Engineering, Medford, MA July 2018 - May 2022

B.S. Mechanical Engineering, *Cum Laude*
Golden Door Scholar
Tufts Summer Scholar 20'

Portfolio:

www.victorsotocastro.com

Skills:

Design: SolidWorks, ANSYS, PADS, COMSOL Multiphysics
Programming: NI TestStand, Python, R, LabVIEW, MATLAB
Shop: Lathing, Milling, Water jetting, Laser cutting, Additive manufacturing

Work Experience:

Mechatronics Engineer – Nielsen-Kellerman Aug. 2023 – Present

- Performed initial and ongoing design for an 18 ft. long closed-loop subsonic wind tunnel along with thorough CFD analysis and complete BOM generation
- Analyze and troubleshoot electro-mechanical automation and control systems to identify and resolve daily andons
- Designed 18 production fixtures, one pneumatic press system for repeatable and precise mating of production parts, and upgraded three TestStand-based programming equipment on the production floor

Deployment Engineer – RightHand Robotics July 2022 – Jun. 2023

- Performed double-digit number of on-site hardware, software, and network installations of robotic systems across 5 states in the country
- Ensured 100% success for every robotic deployment and served as the lead on-site problem solver while tracking all site issues to communicate with engineering, support, and management
- Conducted performance metric analysis of robots through detailed log data collection and communicated results with the deployment managers and customer success teams

Engineering Research Intern- National Fire Protection Association Nov. 2021 – July 2022

- Assisted the Fire Protection Research Foundation team with collecting and analyzing information on the cause of fires, fire losses (deaths and financial), and fire protection features of animal facilities
- Conducted a literature review involving published journals, conference proceedings, and news articles to collect information on fire events at animal facilities

Research Assistant - Space Telescope Science Institute Jun. 2021 – Aug. 2021

- Defined requirements for future far-infrared space-based telescopes by observing 31 protoplanetary disks and protostars and measuring their flux density and relative background flux density at multiple wavelengths
- Created over 10 python scripts to compile Point Source Functions of all objects and used the relationship of image resolution totelescope diameter to find wavelengths and telescope diameters where background flux density dominated the star's flux density
- Constructed a catalog of over 70 objects consisting of protoplanetary disks and protostars used in missions such as ALMA, JWST, Origins, and SOFIA.

Research Assistant – Tufts University, Astronomy and Physics Department Jan. 2019 – Mar. 2021

- Measured the rest-frame optical luminosity function of galaxies over the redshift range $0<z<6$ using a combination of extragalactic photometric catalogs (UltraVISTA, CANDELS-3DHST, HFF-DeepSpace)
- Strengthened Python coding skills to exploit large multi-wavelength photometric and redshift catalogs, and produced publication ready figures