

Tristan Linn

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EDUCATION

B.S. in Mechanical Engineering with minor in Computer Science
The University of Texas at Dallas, Richardson, TX Aug 2020 – May 2024
GPA 4.0

M.S. in Mechanical Engineering in Robotics and Product Realization
Stanford University, Stanford, CA Sept 2024 – Mar 2026
GPA: 4.0

PROFESSIONAL EXPERIENCE

Manufacturing Intern | Northrop Grumman May 2024 – Jul 2024

- Assisted manufacturing floor troubleshooting. Designed, developed, and integrated facility wide tool tracking database in PowerApps and Power Automate for AS9100 Compliance. Modeled digital twins for product line.

Engineering Intern | OTR Wheel Engineering May 2023 – Aug 2023

- Designed and reverse-engineered production CAD models of rims, wheels, and track treads using AutoCAD, Creo PTC, and Windchill to expand global product line. Drafted and approved engineering drawings. Created Engineering Change Revisions (ECRs) and streamlined inventory reconciliation.
- Assisted in quality assurance inspection, ensuring compliance with industry standards.

Student Researcher | HBS Lab at the University of Texas at Dallas Nov 2021 – May 2024

- Design, prototype, and test both smart material actuators as well as a social assistive humanoid robot using SolidWorks, FDM printing, and mold manufacturing techniques at the Humanoid, Biorobotics, and Smart Systems Lab at the University of Texas at Dallas.

Support Supervisor | OIT Help Desk at the Uni. of Texas at Dallas Aug 2021 – May 2024

- Recognized for work ethic and adaptability through promotion to supervisor within 6 months period.
- Managed various campus-wide technical support activities, including documenting major incidents, updating user search databases, managing licensing and network servers.
- Trained and managed student workers in IT Support Role in remote/in-person, group and individual settings.

PROJECTS (Portfolio at tristanlinn.com)

Fiber Optic Connector Staking Machine for Amphenol Fiber Systems International Aug 2023 – May 2024

- Led system integration project to design, test, and manufacture a high precision staking machine. Used GD&T principles to ensure high tolerance levels. Retrofitted pneumatic press to have closed-loop electro-pneumatic regulation with programmable force profiles. Developed systems control software and human machine interface (HMI). Implemented RS232 Modbus communication between Raspberry PI and PLC.

Smart Matl. Actuated Silicone Soft Gripper Assistive Robot Aug 2022 – June 2023

- Designed and prototyped a 3D-printed humanoid robot that emphasized modular designed soft grippers. Soft grippers were developed using nitinol based smart material actuated (SMA) coils embedded in silicone.
- Developed the structural and electrical design, systems integration, and programmed the systems controls, modeling, and sensors using an Arduino Mega, PID controllers, as well as embedded sensors and cameras.

22 Degrees of Freedom Robotic Hand Mar 2022 – Aug 2022

- Designed and manufactured a 22 DoF mechanical hand that is entirely 3D printed and can replicate the dexterity of a human hand, performing fine motor skill operations.

SKILLS

Manufacturing Techniques: CAM, Machining, FDM and SLA Printing, Soldering, Brazing, Mold Design
Modeling Tools: SolidWorks, Creo PTC, AutoCAD, Fusion 360, ANSYS, Abaqus, MATLAB, Simulink, PLC
Software: Java, Python, Arduino IDE, Portenta Machine Control/PMC, Latex, G-Suite, Microsoft Office, Power Apps
Languages: English (Fluent), German (Intermediate/ 2.5 on ILR Scale)

PUBLICATIONS AND AWARDS

Published "HBS-1.2: Lightweight Socially Assistive Robot with 6-Ply Twisted Coiled Polymer Muscle-Actuated Hand" (July 2023) and have two additional robotics and smart material publications pending (2023)

ASME Student Design Competition 2024 – 1st Place June 2024
National Science Foundation Graduate Research Fellowship Recipient April 2024
Jonsson School Undergraduate Research Award (JSUGRA) January 2023
National Merit Full Scholar August 2020