Brian Liang

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EDUCATION

Georgia Institute of Technology — Atlanta, Georgia
George W. Woodruff School of Mechanical Engineering (B.S.M.E.) — GPA: 4.00/4.00
Georgia Tech Honors Program — Expected Graduation: May 2023

PROFESSIONAL EXPERIENCE

SpaceX – Redmond, WA — May 2021 – Aug. 2021

- Led the development of mechanisms for power transmission from the deployable solar array to the chassis of next-generation V2.0 Starlink satellites, enabling mission-critical spacecraft functionality
- Performed testing and calculations for cable harnessing downselection to compare characteristics such as power loss and capsule torque, ultimately determining a $250k cable purchase order for Q1 2022 production
- Accounted for the priorities of multiple teams as well as feedback from full-time engineers and technicians to arrive at an optimal set of mechanism design trade-offs for system level implementation

Maritime Applied Physics Corporation – Baltimore, MD — Aug. 2020 – Dec. 2020

- Enhanced steering and retrieval systems for the Towed Aerial Lift Of Naval Systems (TALONS) project
- Directly collaborated with clients to perform qualification tests and install upgrades for submarine vertical launch systems, ensuring operability during deployment on the Navy's upcoming Columbia-class vessels

NASA Goddard Space Flight Center – Greenbelt, MD — Jun. 2019 – Aug. 2019

- Fabricated high-detail physical models of proposed spacecraft and flight hardware used as tools to refine mission concepts, acquire funding for NASA Goddard, and gain public support
- Facilitated communication with mission teams to adjust model designs and accommodate shifting deadlines, ensuring on-time delivery of high-quality products

PROJECT EXPERIENCE

Space Systems Design Laboratory – Research Assistant — Jan. 2021 – Present

- Upgrade the UHF antenna assembly for the GT-2 CubeSat by developing a novel deployment mechanism using a space-safe additive manufacturing process to reduce mass while improving in-orbit deployment reliability
- Rapidly design, analyze, and integrate structural components on GT-2 to meet the spring 2022 launch deadline

Georgia Tech Solar Racing – Mechanical Lead, Shop Manager — Aug. 2019 – Present

- Organize the mechanical systems revamp of the team's current workhorse solar-electric vehicle by hosting weekly division meetings, developing project planning tools, and handling longer-term integration logistics
- Supervise the early-stage development of the team's next-generation vehicle, adhering to a first-principles approach and proper design practices to produce a fundamentally sound vehicle architecture
- Co-authored team-wide plans for operation during the COVID-19 pandemic to establish a safe working environment and maximize utilization of on-campus resources and workspaces

3-Wheel Holonomic-Drive Robot – Personal Project — Jun. 2020 – Dec. 2020

- Conceptualized, constructed, integrated, and programmed electromechanical systems for a low-cost omnidirectional robot to further broaden knowledge of electrical systems and robotic control

Dynamic Adaptive Robotic Technologies Laboratory – Research Assistant — Jan. 2020 – May 2020

- Designed a single-axis rail system for use in developing dynamic positioning methods for slung loads

FIRST Robotics Competition Team 449 – Fabrication Lead, Project Lead — Sep. 2015 – Jun. 2019

- Rapidly iterated on different designs to produce effective mechanisms while maximizing time for robot testing

SKILLS AND ABILITIES

Programming

Arduino	Java
C++	VBA
Python	
MATLAB	

Applications and Software

Certified SolidWorks Associate	
CAD (SW, NX)	Rendering
CAM	Microsoft Office
FEA (NX12)	

Fabrication and Machining

Machine Tools	Water-Jet Cutting
CNC Routing	Electrical Prototyping
3D Printing	Welding
Laser Cutting	