Harrison M. Leece

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May 2020 graduate with experience in the design, operation and analysis of launch vehicles. Strong technical, communication and leadership skills developed through internships and academic projects. Seeking a role at an innovative launch provider in the design, build, test and analysis of aerospace fluid, thermodynamic and propulsion systems.

Education

Loyola Marymount University, Los Angeles CA **Expected: May 2020**
BSE, Mechanical Engineering **GPA: 3.84**

Work Experience

The Aerospace Corporation, El Segundo, CA, *Propulsion Systems Intern* **March 2019-August 2019**

- Designed and developed the backend and user interface for a utility that enables users to rapidly download cross-discipline launch vehicle telemetry for use in launch risk assessment
- Supported the Air Force launch rehearsal and day of launch activities by developing a Falcon 9 stage propulsion handbook for use during day of launch support and as a new employee quick-start to the Falcon vehicles
- Reverse engineered, and converted Aerospace Corporation's Atlas V solid rocket boosters analysis code from MATLAB to Python
- Supported four Falcon 9 launches by analyzing telemetry for anomalous behavior, operating software on Linux machines, and reporting findings to Air Force engineering

Moog Aerospace, Torrance, CA, *Engineering Intern* **May 2018-August 2018**

- Executed various tasks to support rapid fault correction for non-compliant components, including processing ECNs and ECPs, and executed solid model and drawing changes
- Investigated failures to find how parts at risk of being scrapped could potentially comply with customer specifications after modification. Investigated tolerance stack up issues to prevent future failures

LMU Campus Event Operations, Los Angeles CA, *Operations Assistant* **September 2016-Current**

Engineering Projects

Loyola Marymount Aerospace Research Society (LMARS), *VP/ Lead Engineer* **Jan 2018-Present**

- Designed and modeled an injector and oxidizer feed system capable of delivering desired mass flow of oxidizer to combustion chambers of subscale and full-scale hybrid rocket motors
- Modeled test stand and modular oxidizer feed system capable of measuring thrust curve of subscale motor used for hybrid motor research at LMU. Supported test stand Nitrogen flow system assembly and operation
- Led bi-propellant liquid engine fluid system development, including inert gas thermodynamic analysis, component selection, pressure loss analysis and book-keeping and hardware hydraulic proof testing.
- Initial designer and programmer for LMU Rocket Trajectory Simulation code
- Designed injector manifold and pintle. Supported manufacturing for pintle and injector top
- Responsible for engineering management tasks and team leadership, including system architecture and integration, driving task completion and educating new team members

Skills/Other

CAD: SolidWorks, NX; **Code:** MATLAB (Simulink), Java, Python, Numerical Methods, Excel, Git, NASA CEA, Linux; First aid**; Interim secret clearance**