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 and analysis of launch vehicles 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’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**

* Performed various engineering tasks, including processing ECNs and ECPs, and executed solid model changes, drawing changes, tolerance stack up analysis and tool designs
* 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* **Sept 2016-March 2019 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
* Led team transition from solid and hybrid technologies to liquid propulsion, including preliminary research, university relations and recruitment of rocketry experts as mentors
* Initial designer and programmer for LMU Rocket Trajectory Simulation code
* Analyzed combustion properties to determine liquid engine requirements
* Designed suitable annular orifice for pintle injector to prevent flow oscillation in rocket engine
* 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 (Data science, Numerical Methods), Excel, Git, NASA CEA, Linux; First aid**; Interim secret clearance**