

Charlie Nitschelm

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Objective:	To assist in research at the MDRS facility for the 2019-2020 season	
Education:	University of New Hampshire – College of Engineering and Physical Sciences GPA: 3.79/4.0 Honors Program B.S, Mechanical Engineering Minor in Physics	Aug. 2016 – May 2020, anticipated
Tech Skills:	Solidworks MATLAB VSM GD&T DMLS Printing 5 Axis Machining Tig and Laser Welding Water Jet	
Experience:	Rocket Lab USA <i>Propulsion Manufacturing Engineering Intern</i> <ul style="list-style-type: none">Created the factory's first in-depth value stream map to identify process bottlenecksDesigned and created a company-wide production tracking worksheet to plot production line rates and predict the corresponding effect that engineering projects would deliver, thus highlighting the biggest impactorsDesigned, drafted, and manufactured 9 different tools and fixtures that to reduce set-up and 5-axis CNC machining time by a total of 30 machining hours and 34 set-up hours per engine flight setOperated the DMLS 3D printers with setting-up, print up-keeping and taking down during surge times in productionDesigned, cut, and welded the frame for a turbo-pump flow test rig	May 2019 – August 2019
	TURBOCAM International <i>Manufacturing Engineering Intern</i> <ul style="list-style-type: none">Created and optimized 5-axis mill tool paths using batch with feeds, speeds, approaches and retractsUsed a Zoller Smile to precisely obtain tool measurement readings after an operationConducted an analysis on tool degradation with different tool coatings for Inconel 718 to determine if the extended tool life would outweigh the costs of tool coating implementation to the factory floor	September 2018 – May 2019
	National Institute of Standards and Technology (NIST) <i>Researcher: Mechanical Performance</i> <ul style="list-style-type: none">Conducted a study on Inconel 625 in both tension and compression and stress triaxiality on axisymmetric 1018 steelPerformed low strain rate tests on an MTS and compiled all the data using Python to output useful informationDesigned and performed all experiments on a pulse-heated Split Hopkinson (Kolsky) Bar for high strain rates	May 2018 – August 2018
	UNH Mechanical Engineering <i>Undergraduate Researcher</i> <ul style="list-style-type: none">Designed and modeled axisymmetric 1018 steel specimens using Solidworks and Abaqus to study stress triaxialityManufactured 30 Inconel 625 specimens in various rolling directions to study the effects of heating rates	January 2018 – May 2018
	UNH Institute for the Study of Earth, Oceans, and Space <i>Researcher: Data Analysis</i> <ul style="list-style-type: none">Used Python to conduct a systematic search of the COMPTEL satellite data for evidence of polarizationPerformed simulations to estimate the polarization sensitivity for that event	May 2017 – August 2017
Relevant Orgs:	UNH Students for the Exploration and Development of Space <i>President, Lead Engineer</i> <ul style="list-style-type: none">Managing the Hybrid Rocket program to design, manufacture and build a gimbal-controlled hybrid engine using HTPB and Nitrous Oxide and integrate it into a 7" single stage rocketAttended SpaceVision 2018 with 16 team members in San Diego, California to network with other SEDS membersLead overall managerial duties including running all meetings and overseeing the goals of the organizationCreated an in-depth flight simulation using MATLAB to optimize our rocket's design to achieve maximum height	Mar. 2017 – present
Other Skills:	Project Management Organizational Leadership Creativity and Problem-Solving Process Improvement	



References:

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Additive Manufacturing Engineer, Rocket Lab
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Dan Hirst

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