

# Charlie Nitschelm

30 Coe Drive, Durham NH 03824 • (603) 923-9079 • [Charlie.Nitschelm@seds.org](mailto:Charlie.Nitschelm@seds.org)

<b>Objective:</b>	To show my experience for the opportunity to serve as Chair of SEDS USA 2019-2020	
<b>Education:</b>	<b>University of New Hampshire – College of Engineering and Physical Sciences</b> GPA: <b>3.79/4.0</b>   Honors Program   B.S, Mechanical Engineering   Minor in Physics	<b>Aug. 2016 – May 2020, anticipated</b>
<b>Tech Skills:</b>	Solidworks   MATLAB   VSM   GD&T   DMLS Printing   5 Axis Machining   Pressure Testing   Tig and Laser Welding	
<b>Experience:</b>	<b>Rocket Lab USA</b> <i>Propulsion Manufacturing Engineering Intern</i> <ul style="list-style-type: none"><li>Created the factory's first in-depth value stream map to identify process bottlenecks</li><li>Designed 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 impactors</li><li>Designed, 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 set</li><li>Operated the DMLS 3D printers with setting-up, print up-keeping and taking down during surge times in production</li><li>Designed, cut, and welded the frame for a turbo-pump flow test rig</li></ul>	<b>May 2019 – August 2019</b>
	<b>TURBOCAM International</b> <i>Manufacturing Engineering Intern</i> <ul style="list-style-type: none"><li>Created and optimized 5-axis mill tool paths using batch with feeds, speeds, approaches and retracts</li><li>Used a Zoller Smile to precisely obtain tool measurement readings after an operation</li><li>Conducted 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</li></ul>	<b>September 2018 – May 2019</b>
	<b>National Institute of Standards and Technology (NIST)</b> <i>Researcher: Mechanical Performance</i> <ul style="list-style-type: none"><li>Conducted a study on Inconel 625 in both tension and compression and stress triaxiality on axisymmetric 1018 steel</li><li>Performed low strain rate tests on an MTS and compiled all the data using Python to output useful information</li><li>Designed and performed all experiments on a pulse-heated Split Hopkinson (Kolsky) Bar for high strain rates</li></ul>	<b>May 2018 – August 2018</b>
<b>Relevant Orgs:</b>	<b>UNH Students for the Exploration and Development of Space (SEDS)</b> <i>President, Lead Engineer</i> <ul style="list-style-type: none"><li>Oversaw the engineering development of Runaway, New Hampshire's first hybrid rocket engine, from initial development to hot-fire testing.</li><li>Leading the propulsion team on the qualification and optimization of Runaway with a series of hot-fire tests in preparation for the integration onto a 7" composite rocket to compete in Spaceport America Cup in June 2020.</li><li>Overseeing the design and build of our hybrid rocket that will carry a research payload to 10,000 feet by managing engineering leads and all recruitment/business/finance initiatives.</li><li>Founded the team/family and has now grown to the largest, most interdisciplinary engineering organization at UNH.</li></ul>	<b>Mar. 2017 – present</b>
	<b>Students for the Exploration and Development of Space USA</b> <i>Chair, Board of Directors</i> <ul style="list-style-type: none"><li>Leading the entire board of directors and staff of SEDS USA to expand the reach of SEDS within the country</li><li>Managing and maintaining communication with the Board of Advisors to get feedback on new projects and form connections within the space industry and academia.</li><li>Lead the development of a SEDS Wiki, the largest student-run space organization in the world, allowing the transfer of knowledge not just between one college organization, but chapter to chapter.</li></ul>	<b>May. 2019 – present</b>
<b>Other Skills:</b>	Engineering Project Management   Organizational Leadership   Creativity and Problem-Solving   Process Improvement	