Charlie Nitschelm

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**Objective:** Find an internship or full-time manufacturing engineering position starting the summer of 2020

**Education****: University of New** **Hampshire** – *College of Engineering and Physical Sciences* **Aug. 2016 – May 2020, anticipated**

GPA: **3.79/4.0** | Honors Program | B.S, Mechanical Engineering | Minor in Physics

**Tech Skills:** Solidworks| MATLAB | VSM | GD&T | DMLS Printing | 5 Axis Machining | Tig and Laser Welding | Water Jet

**Experience****: Rocket Lab USA May 2019 – August 2019**

*Propulsion Manufacturing Engineering Intern*

* Creating and optimizing 5-axis mill tool paths using batch with feeds, speeds, approaches and retracts
* Using a Zoller Smile to precisely obtain tool measurement readings after an operation
* Conducting 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

**TURBOCAM International September 2018 – present**

*Manufacturing Engineering Intern*

* Created and optimized 5-axis mill tool paths using batch with feeds, speeds, approaches and retracts
* Used a Zoller Smile to precisely obtain tool measurement readings after an operation
* 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

**National Institute of Standards and Technology (NIST) May 2018 – August 2018**

*Researcher: Mechanical Performance*

* Conducted a study on Inconel 625 in both tension and compression and stress triaxiality on axisymmetric 1018 steel
* Performed low strain rate tests on an MTS
* Designed and performed all experiments on a pulse-heated Split Hopkinson (Kolsky) Bar for high strain rates
* Compiled all recorded data on experiments and used Python to perform calculations to output useful information

**UNH Mechanical Engineering January 2018 – May 2018**

*Undergraduate Researcher*

* Designed and modeled axisymmetric 1018 steel specimens using Solidworks and Abaqus to study stress triaxiality
* Manufactured 30 Inconel 625 specimens in various rolling directions to study the effects of heating rates

**UNH Institute for the Study of Earth, Oceans, and Space May 2017 – August 2017**

*Researcher: Data Analysis*

* Used Python to conduct a systematic search of the COMPTEL satellite data for evidence of polarization
* Performed simulations to estimate the polarization sensitivity for that event

**Relevant Orgs: UNH Students for the Exploration and Development of Space Mar. 2017 – present**

*Co-Founder, CTO*

* Managing the Hybrid Rocket program to design, manufacture and build a gimbal-controlled hybrid engine using HTPB and Nitrous Oxide
* Attended SpaceVision 2018 with 16 team members in San Diego, California to network with other SEDS members
* Lead overall managerial duties including running all meetings and overseeing the goals of the organization
* Head the model rocketry building techniques program to master the manufacturing expertise needed
* Managed all tech leads to create a high-altitude rocket to participate in the University Student Rocketry Competition
* Created an in-depth flight simulation using MATLAB to optimize our rocket’s design to achieve maximum height

**Other Skills:** Project Management | Organizational Leadership | Creativity and Problem-Solving | Communication