Charlie Nitschelm
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October 28th , 2018

Dear SpaceX,

I am a 3rd year mechanical engineering major with a minor in physics at the University of New Hampshire (UNH). I am writing to apply for the University Internship Program at SpaceX given my extreme passion in space exploration and the global push to make humans a multi-planetary species. It is my aspiration to fill an engineering position. I am thrilled at the chance to work for a company that is at the forefront of commercial space exploration and has proved time and again that creativity, hard work, and resilience create beautiful and world changing possibilities. To that end, I feel it crucial to highlight relevant experience I have acquired that would qualify me to be part of your engineering team.

Besides the natural enjoyment I experience from my classes, I naturally apply my book knowledge to summer internships and club/organizations. During the summer of 2017, I obtained a research grant to work on gamma ray polarization in solar flares at the Institute for the Study of Earth, Oceans, and Space. This was my first exposure to a professional research environment and allowed me to experiment with high-level physics topics that I was interested in. During the summer of 2018, I was a researcher at the National Institute of Standards and Technology in Gaithersburg, Maryland researching Inconel 625 in tension and compression at high strain rates and thermal heating. I was able to perform over 50 tests at various strain rates and temperatures to fit to a Johnson-Cook model to allow better manufacturing simulations of a lamina insert for a heat exchanger. I have also earned a part-time job at TURBOCAM International as an engineering manufacturing intern primarily working on the effect of various tool coatings on endmills on the manufacuting floor to determine the effect in endmill tool life. I also have 2 years of experience leading organizations at my university. As founder of UNH Students for the Exploration and Development of Space (SEDS), a rocket engineering and outreach club, I have developed a skill set that allows me to understand my organization members' personalities to better manage the team. Teamwork is a skill that can only be learned in practice, and having experience in engineering projects has helped me be a better communicator and team player. I also lead all engineering efforts including building our first multi-stage, high altitude, carbon fiber rocket that has a nominal flight in late September. UNH SEDS has now committed to the deisgn, manufacturing and testing of a vector controlled hybrid engine to compete in the SpacePort America Cup in June 2019.

I made a dream board during my first week of university with this exact application posted in the direct middle with everything around it as goals to reach this position. All the curiosity and imagination I apply to my daily life is to continue my learning to one day become a part of SpaceX's world changing team. Work culture is extremely important to productivity and I think my personality will fit perfectly in my position if given the opportunity.

Thank you for all your time and consideration.

Charlie Nitschelm
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