Answer to this question is required.

Please compose a personal statement (maximum of 6000 characters which includes spacing) in the provided space which includes:

* Commitment to participate in the program and work in a laboratory environment
* Description of prioritized research interests
* Career goals
* Interest in pursuing graduate studies

The Summer Undergraduate Research Fellowship would be an excellent opportunity for me to grow the professional and technical skills I have already started to develop at the University of New Hampshire. With some experience in a laboratory environment at the University of New Hampshire I would love to continue this to new research in which I can devote more time to and develop a deeper understanding. I believe that through the Engineering Physics curriculum I am best suited for the "686-1 Control Systems for Precision MRI" research, development of new systems or the improvement of previous systems is experience I desire to participate in. Also, "687-1 Design, fabrication, and testing of superconducting resonators for quantum transduction" research is a program that I have experience in through the Nuclear Physics Lab which specializes in super cooling material to 4.2-1.7K while applying a magnetic field of ~4.999T.

Personally, my careers goals tend towards the ski, I have always desired to become an aerospace or mechanical engineering. This desire started when I was ~6 years old and have not ceased since, I am passionate about the work that I do and desire to learn more whenever possible. This translates directly to my current and future academic career, the University of New Hampshire has a Engineering Physics program with a concentration in Aerospace, this along with the Mechanical Engineering minor has prepared me for a large variety of engineering experiences. Taking this to the next level would ideally include a master’s in aerospace with some industry experience.

Through the Undergraduate Research at a Nuclear Physics Laboratory I have gained experience with cryogenic material, radioactive material, and strong / superconductive magnets. Through SEDS I gained experience in the analysis of data through National Instruments equipment and much more.

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Through being the Vice President of SEDS, I am responsible for conducting 30 members of an engineering club in a safe and organized manor. This task includes instructing new team members about safe and proper techniques within the machine shop, along with teaching them about the basics behind rocketry.

I have always known what I want to do with my life. Ever since I was 6 years old, whenever people asked me “what do you want to do when you grow up?” I have given the same answer, I want to be an Aerospace Engineer. This has been a gift to me as it has been my guiding star for my entire academic career. From elementary school on, I have always been fascinated by the “how things work” behind engineering. The Summer Undergraduate Research Fellowship would be an excellent opportunity for me to grow the professional and technical skills I have already started to develop.

Working in the Applied Physics Division would an amazing experience due to its research in Control Systems for Precision MRI. Although Aerospace and MRIs are very different, I find the relation with enhancing systems and designing a better control system to be critical in both cases. At the University of New Hampshire, I have experience with programming / hardware interfacing through the Nuclear Particle Group Lab (NPG) where I act as an undergraduate research assistant. At the NPG Lab I have worked with thermal sensors and controllers, specifically PID Temperature Controllers and most recently a Mercury ITC. Working for the Control Systems for Precision MRI would allow me to apply this experience to another field and expand my knowledge base.

Aside from the Applied Physics Division, working in the Quantum Electromagnetics Division would be a great opportunity for me due to its research in Design, fabrication, and testing of superconducting resonators for quantum transduction. I am intrigued by this research due to its close relation not only with NPG Lab but also the overall Physics curriculum at my university.

Continuing on from university, I will complete my Master’s degree in Aerospace Engineering either directly after my bachelor’s degree or after a few years in the job field. This continual pursuit of knowledge is key for follow the path I have laid out for myself over the past 15 years.

If accepted into the SURF program, I will contribute my broad engineering background in addition to a more in-depth physical knowledge of how things work, at the macroscopic and quantum scale. I can apply this knowledge with a multitude of softwares and programs such as MATLAB, SOLIDWORKS, and LabView. The Summer Undergraduate Research Fellowship allows me to continue down my path outside of school and work towards my future.