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Neptune Medical Robotics

Dear Hiring Manager,

I am writing to express my interest in the Summer 2025 Product Development Engineering Internship on the Medical Robotics team. I believe with my experience in biotechnology, manufacturing, and undergraduate research combined with skills I gained through my mechanical engineering and robotics courses that I'd be a great fit for this position.

As an Optical Systems Engineer at BioRaster, a biotechnology startup, I am responsible for utilizing optical identification techniques such as Raman Spectroscopy to conduct antibiotic susceptibility testing. With a strong foundation in mechanical engineering and extensive experience in Raman Spectroscopy, I design prototypes for filtration mechanisms and Raman nano substrates, while ensuring precise calibration and maintenance of the Raman microscope. The co-founder of the company, a professor I previously worked for as an undergraduate research assistant, entrusted me with managing the laboratory's inventory and operations, highlighting his confidence in my reliability. From this experience, I gain hands-on engineering skills combined with laboratory management and communication skills.

As a manufacturing engineering intern at Regeneron Pharmaceuticals, I was tasked with automating a downstream protein purification process using Raman Spectroscopy. Working in a regulated environment, I was able to keep in mind the various constraints in implementing Raman Spectroscopy such as cost, GMP compliance, and safety. During my internship, I used CAD software and 3D printing to design and develop a prototype, which was then sent to affiliated vendors for manufacturing. In the end of the internship, I was able to successfully develop a prototype solution which would save the company approximately \$8 million annually. From this experience, I was able to gain the basic skills necessary for automation such as problem solving and working around constraints.

I look forward to hearing more about this internship opportunity and what Neptune Medical Robotics has to offer. Thank you, looking forward to hearing back.

Sincerely,
Allen Fraiman.