Four years of exploring physics through study and research has directed my growth in thinking creatively about open-ended problems and applying my knowledge to understand processes and concepts. Combining my interest in the clinical setting with my love for scientific investigation, I want to pursue a

dual degree M.D./Ph.D. so that I can play a personal role in impacting individual patient's lives and also lead the search for discoveries that lead to better outcomes for patients.

My research experience with Wei Li, Ph.D., in high-energy physics has developed my passion for scientific investigation and effective communication. Under his direction, I learned many skills required to conduct organized research effectively. Working on independent research projects has forced me to think creatively to troubleshoot and to solve experimental design problems requiring exploring the deeper concepts of the field. This continual exploration and creativity are both aspects that I have come to appreciate about the process of scientific discovery. But, communication of these discoveries is also key to scientific advancement. My desire to communicate my work originates from my experiences at CERN, where I collaborated with teams of physicists, and in the coalescence of my work into a senior thesis, where discussions of both my work and my peers' work expanded the scope of my knowledge and highlighted the importance of communication.

The interdisciplinary nature of research is among its most appealing facets. I can explore my interests that exist outside the immediate scope of the clinical and medical field and integrate them into medicine in novel ways. Furthermore, it leads me to new interests in areas that I had previously overlooked fostering new directions and perspectives. For instance, my undergraduate research and education has led me to an interest in computational science, which drives my current research interest in medicine. I want to apply my programming background to advance the application of machine learning and computer vision in an area of medicine such as imaging, bioinformatics, or personalized medicine, to name a few.

The dual degree provides doors to all of my career aspirations. In the clinic, I am working on the front lines of medicine where I can develop relationships with patients and see, in real time, the innovations that would benefit medicine. In the lab, I have the freedom to ponder and solve abstract problems involving the intersection of different fields, which allows me to explore the interests that I have found during my undergraduate experience, while simultaneously contributing to humanity's struggle in fighting illness. Together, they make me an effective physician-scientist providing care to patients by joining the bridge between discoveries in the lab and their application in the clinic.