I stretched out in the backseat of the car, coloring while listening to my father talk about the importance of scientific advancement as a means of service. He was introducing me to concepts I didn't quite understand then, though my interest was piqued. Years later, I felt the same intrigue as I stared at the never-ending string of A's, T's, G's, and C's on my computer screen. This time, however, I understood that these letters had the potential to produce personalized care and to improve health outcomes. I aim to practice genomic medicine within an academic setting. My past training as a bioengineer and my current training as a MD/Ph.D. focusing on genetics are providing me with the tools to pursue this career path. I envision a career that incorporates conducting genomics research, practicing medicine, mentoring future generations of physicians, and leading change in my field.

My past academic and extracurricular experiences form the foundation for my current work and future goals. At sixteen, I sought out my first research opportunity, and this fascinating world has captivated me since. In Dr. Jannon Fuchs's neuroscience laboratory, I learned to think critically about scientific problems. I continued to explore different research fields when I entered college -- doing tissue engineering work and designing technology for the developing world. In each experience, I witnessed how research could improve the human condition.

At Stanford, I have drawn from my engineering past to focus on bringing innovation from the laboratory to the bedside. During my first year, I joined the laboratory of Russ Altman and discovered my passion for genomics research. After a year of research as a Howard Hughes Medical Institute Fellow, I applied internally and was accepted into the MD/Ph.D. program. Working with Dr. Altman, I have developed skills in genetics and bioinformatics while

managing multiple projects. One of my main projects explores how genetics influences anticoagulant dosing in African Americans. I developed a new method for analyzing mutational burden in genomic data, resulting in a first author publication. Moreover, I quantified the effect of a previously uncharacterized genetic variant in African Americans, which confers anticoagulant sensitivity; our findings were recently published in a top medical journal, The Lancet. With this knowledge base, I launched the Iranian Genome Project to study my own population in a way that has never been done before. As the lead researcher for this project, I have gained the type of independent experience critical for running a lab. I developed the project framework, secured human subjects approval, collected and processed blood samples, and analyzed and presented the results. However, my goal is not only to conduct this type of research, but also translate the results to the clinic.

I was drawn to patient care while working with physicians in Beyond Traditional Borders at Rice to develop the diagnostic lab-in-a-backpack. This interest was further solidified through my Ph.D. research advisor, Russ Altman, a physician scientist who not only conducts research but also serves as a physician at a San Mateo safety net clinic. For me, engaging with patients not only motivates my research, but is also deeply gratifying. Since my first year of medical school, I have volunteered at both Pacific and Arbor Free Clinics. Those experiences motivated me to help co-found and co-manage the first specialty clinic in Dermatology at Pacific Free Clinic this past year. In the process, I learned about developing a clinic, recruiting volunteers, and managing patient care. However, the most gratifying aspect was seeing patients finally receive care. In my favorite encounter, one my patients became jubilant after I assisted in removing a large and painful skin lesion, which had bothered her for months. This act had brought her more

joy than I had expected, and I realized how even basic clinical care directly impacts quality of life. My clinical experiences have confirmed my desire to also practice medicine, and I look forward to completing the final two years of my MD after I finish my Ph.D.

Mentorship from faculty has heavily influenced my aspirations to enter academic medicine. Teaching the next generation is a privilege of the academic physician, and to prepare this role, I co-instructed a Stanford course on Pharmacogenomics, the study of how genetics can personalize drug prescribing. Concurrently, I was invited to independently develop and instruct an Introduction to Pharmacogenomics graduate seminar course at San Francisco State University. While teaching, I developed the capacity to tie the course material to examples relevant to the students. At the end of my course, a student shared that she had taught her grandfather's physician about the pharmacogenetic interactions of her grandfather's prescription drugs! My hope is to continue to stimulate such critical thinking and application in my future students.

At Stanford, I have learned that to excel as an academic physician not only requires strong research, clinical skills, and teaching, but also leadership. I have been involved in the Stanford Medical Student Association (SMSA) and have served as its Vice President and President. I have learned how to advocate for students and how to negotiate with administrators. One impactful undertaking during my leadership was petitioning the Stanford University provost to include a student on the search committee to select a new dean for the School of Medicine. To achieve this, I worked with the advising deans to draft a letter to the provost outlining our case for a student on the search committee. When we received a negative response, I rallied the student body, and we respectfully addressed the issue at a townhall meeting. Afterwards, the provost wrote to me expressing his desire to include a student on the search committee, and I worked with SMSA to evaluate and recommend candidates for the position.

My time at Stanford has given me a wealth of experience in research, clinical care, teaching, and leadership. I know that as I continue my education here, I will become even more poised for my future as a physician leader translating genomic research and providing personalized care.