My professional goals arose early in boyhood. Even before I knew what science was, I loved the complexity and richness of nature. Growing up, I was particularly fascinated by the human body, especially in terms of how vestigial structures and traits lead to disease. In high school, I seized an opportunity to do genetics research, and I realized I enjoyed it. In college, I became convinced science was the path for me. However, the mind began to draw more and more of my attention, and I eventually changed my field from genetics to neuroscience.

My ultimate goal is to become a principal investigator, leading my own laboratory and developing new biotechnologies. I plan to investigate the relationship between our genome and our behaviors, as mediated by our brains' specific circuitry, using this integrative standpoint to develop technology linking molecular biology to the neural structures shaping the mind. Application of this end-to-end approach could provide solutions to long-standing problems in psychology, developmental biology, education and many other diverse fields. For example, identifying the genetic markers of fine networks could allow for the development of new drugs to treat psychiatric disease with fewer side effects.

In the near-term during graduate school, I believe my future interests are best served by maximizing my versatility as a researcher. I seek to develop a similarly eclectic set of research skills, which are required to pursue such questions across such a wide range of scales. Similarly, I hope to learn how to coordinate with other groups, allowing me to work with others if my research progresses into fields outside my specialization. Finally, I wish to improve my general communication skills, allowing me to easily bridge the gap between my field and others, as well as between academia and the public at large. By the time I graduate, I want to be able to run a diverse interdisciplinary research program, work hand-in-hand with more specialized groups, and discuss my findings with leaders in government and industry capable of implementing them.

To become a more well-rounded scientist, I have proactively cultivated experience across a range of domains. Though my background is originally in molecular biology and genetics, I have since developed competencies in behavioral and systems-level methods, and I currently specialize in computational neuroscience, programming my own bioinformatic analysis pipelines in R and Python. In my current project, I have opened up dialogues with other researchers and even began collaborations with biochemists and developmental biologists as a result. To become a better communicator, I write as an independent science journalist for various popular media sources, including multiple nationally-recognized media outlets, such as Salon and RealClearScience, among others.

An NDSEG Fellowship would provide major institutional support to further these goals. I am studying in a newer lab, and financial considerations always demand major consideration for my research, limiting my ability to follow high-risk/high-reward lines of inquiry. An independent fellowship would help relax such constraints, granting me the freedom to go where my ideas take me.