Personal Statement

Exploration, imagination, creation, and explanation. These are the passions that drive me. Every project I undertake derives from a need to fulfill at least one of these motivations. My life can be viewed as a confluence of these four forces, and I am the form that has emerged.

Exploring the woods behind one’s house is a pursuit of every young person. When I was seven, I took it a bit further. I wrote a letter to NASA expressing my interest in becoming an astronaut, and asking how I might accomplish that dream. To my delight, they sent me a large envelope stuffed with brochures and glossy photographs, including a timeline by which I calculated that I would have my Ph.D. just in time to be on the first manned Mars mission. I have since discovered that there remain many fascinating mysteries to solve that are much closer to home, but I have retained my early zeal and passion for exploration.

Reading opened new worlds to me. In second grade, I read the Lord of the Rings trilogy. My parents had been reading The Hobbit to my sister and I, but my sister started reading ahead. Not to be left behind, I read on my own, as well. Enchanted, I read the trilogy at every spare moment. For the rest of my public school career, I could always be found with a book glued to my face as the bus jolted down the road. I progressed from fantasy to science fiction to serious novels to nonfiction – and back. To this day, I read voraciously. I love to think about the ideas I find in books, both in relation to other books, and in relation to life. I hold no illusions about the utility of the pseudoscience found in most science fiction, but there is valuable perspective to be found in thinking about our own world relative to one in the imagination of an author. Taking a short story writing class at Carleton put me on the other side of the page. I was challenged but gratified to explore issues such as personhood and reality in a narrative format.

Creation and explanation run in the family. My father’s father was an artist and professor, and was also named George Kachergis. My dad and his brother are artisan carpenters, and their sister and mother are book designers. Art. On my mom's side, there is a physicist, a lawyer, a doctor, and an IT professional. Science. In high school I began to learn that these forces could be combined. I made websites, took up photography, and wrote my first computer programs. I was thrilled to be creating, but although my tools were technological, I didn't feel like I was contributing to human knowledge.

While reading Douglas Hofstadter's book Gödel, Escher, Bach: an Eternal Golden Braid in high school I realized that cognitive science offers an outlet for my creative energies that is unique because it also fulfills my need to contribute to knowledge. In college I discovered that computer science provides a remarkable set of tools with which to tackle the problem of human cognition. Attending a small, liberal arts college has allowed me to take a wide range of courses that deal with many facets of cognition. In The Greek Mind I read classical philosophers and dramatists and discussed the Greek psyche; in Artificial Intelligence I wrote an Othello agent in Lisp that outplayed me; in Behavioral Neuroscience I performed neurosurgery on a rat. The small class-sizes enabled me to form relationships with many of my professors outside of class. I was encouraged to drop by their office to discuss my ideas and interests, as well as to hear about their own. Having personal relationships with active researchers has given me a glimpse of what life as an academic is, and this has made me more excited to pursue a
research and teaching career, despite the many minor frustrations and trials that plague academia.

As a student in the Budapest Semester in Cognitive Science, I was presented with twelve one-week courses taught by cognitive scientists from institutions around the world (see transcript). Our courses ranged from Chaos and Complexity in Modeling the Human Mind to Cognitive Ethology to Philosophy of Mind. My exposure to the views of twelve professionals with vastly different backgrounds granted me perspective on the field and helped me cement some of my beliefs about cognition. Weekly oral exams helped me to express my beliefs and test them against critical ears. I believe I have become a confident and clear speaker, and it has serviced me well in my various leadership experiences.

As a freshman, I cofounded the Carleton Robotics Team, and I have served in a leadership role for three years. Two years ago I became the program director of an almost-defunct volunteer group that refurbishes computers and distributes them to Carleton students in need. The group has received more donations and distributed more computers than ever before. Every year I captain teams for intramural Ultimate frisbee, soccer, and broomball (ice hockey with tennis shoes). I was elected and served as senator and Intercampus Liaison for the Carleton Student Association for one year, during which time I headed the Internet Technology Services committee. I spearheaded efforts to improve wireless coverage on campus, reduce paper usage, and add new functions to our online campus directory. Finally, I was selected to represent my school in Tokyo for two weeks as the Technos International Fellow, fostering cultural exchange with students at a Japanese university. All of these opportunities have taught me the value of teamwork and good communication, which I am sure will be critical to my success as a researcher.

After graduate school, I am interested in continuing research on intelligent machines at a research university. Although this is my primary goal, I am also interested in teaching. I have been told that I see things in ways that others don't, so I struggle to give context and explanations at many levels of abstraction. In my work as an Academic Computing Assistant I have explained complex computer failures to art professors; as a leader of the Carleton Robotics Team I have described philosophical approaches to cognition to physics majors. I find it very rewarding to see comprehension dawn on the face of someone I have been teaching.

I am eager to contribute to human knowledge by conducting novel research in intelligent machines, as outlined in my Proposed Research. I also look forward to explaining to the next generation of researchers all that I will learn in my career as a cognitive science researcher. Having come far in grasping the current understanding of cognition, and in mastering the tools of computer science, I am ready for the challenges of graduate study. The NSF Graduate Fellowship will allow me to ardently pursue my Ph.D. at the program of my choice, and attain my objective of creating a machine that will explain the workings of the mind.