

Personal Statement

My interests in social computing have developed over time, and I can trace them back to an unlikely place--the pediatric ambulatory clinic at Bronx Lebanon Hospital. Walking these halls each evening as a high-schooler, I saw the faces of many concerned parents. For most, their worries were ephemeral, usually the result of a seasonal cold or a playground injury. The most troubled parents, however, were those with the nagging feeling that something might be wrong but without a name to give it. As the South Bronx population served by the hospital held significantly lower incomes and lower levels of education, many parents who observed abnormal behavior or delayed learning in their children were unaware of the potential implications.

My work in the hospital was transformative in helping me understand how access to information can change lives. During my time there, I helped to design and pilot a study to determine whether parents' observations about their children's behavior could provide cues about potential neurological and developmental disorders. I spoke with parents of children under two, asking them simple questions and relying on their untrained observations for answers. The study demonstrated that these observations were effective in helping to route at-risk children for further screening in order to help identify potentially life-changing conditions earlier; earlier intervention for conditions such as autism can drastically improve quality of life and adjustment.

What struck me as most interesting about this study was how asking such simple questions could have such a large impact. While perhaps not all of these families would have had access to the internet, for those who did, surely information on these conditions must have been available. It's so easy to search the internet for symptoms of autism when you have a name for the condition, but without that name, the problem becomes so much harder. Here, it seemed that social technologies that facilitated information sharing among people could become so useful. On a social network for new parents, mothers could exchange information about their children and learn from what others had learned. Those whose children had been screened in our clinic, for example, could share their child's symptoms and their diagnosis. Social technologies have the power to distribute knowledge to those who may not have it yet and who may need it most.

While the rest of our daily information needs may not always be as acute as they were for these parents, they are ever-present and growing. Technology has allowed us to expand our cognitive reach, first by serving as an external means of storage and computation, and more recently by allowing us to connect with others and share information in new and more meaningful ways. I have long been fascinated with the capacity of social tools to help us create and spread useful information; social networks such as Facebook and Twitter have allowed us to spread information in real-time across geographical and political boundaries, and with industry giants such as Google and Microsoft recently discovering the value of social search, large strides in this area are likely in the near future.

Working with Peter Pirolli and Ed Chi in the Augmented Social Cognition Group at PARC, I have had the opportunity to explore the area of social computing in detail. Conducting research in topics ranging from social information seeking to computer-supported collaboration to modeling of learning patterns, I have had the opportunity to shape and build technologies to facilitate individual and collective learning and knowledge. In order to pursue this research, I have had to draw on the varied skills and interests that I have been gaining throughout the years.

My time at Stanford University formed the foundations for my interest in social computing. My work in mathematics and formal logic gave me a rigorous analytical foundation which has aided me greatly in conducting my research, and my study of philosophy has imbued me with the abilities to think critically and to craft concise and compelling arguments. During my undergraduate career, I also completed a minor in Symbolic Systems, a unique interdisciplinary program blending computer science, cognitive science, linguistics, and psychology. This is where I began to develop my fascination with topics in social computing and cognition and gain the programming and technical skills needed to pursue research in this area.

Through the Symbolic Systems Program, I gained valuable research experience as an undergraduate working in Barbara Tversky's cognitive psychology laboratory. Designing and conducting studies of perspective-taking and gesturing from which I learned how deeply our individual cognition is linked to the physical world. During my time as a Support Engineer with Google, I took on a secondary research project examining the work practices of the Google News team. In this role, I examined participants' actions in physical space and when using desktop tools in order to build specifications for better tools for reviewing news sources. My work at Google also gave me the opportunity build my technical skills by working on real-world tools; as a Support Engineer, I developed algorithms for preventing fraud on Google's AdWords product, and I specifically took on a project aimed at visualizing information about fraudulent activity in order to better assist the team in detecting trends.

To complement my continuing education, I will continue to exercise my own capacity for leadership and facilitating discussion. At PARC, I have organized a bi-weekly "Data Lunch" for cross-area discussion about qualitative and quantitative research methods. In the coming spring, I plan to bring academics and professionals from the consumer web industry together as part of a panel on Social Search at the national South by Southwest technology conference. Earlier, at Stanford, I provided mentorship through residential education, serving as a residential assistant for a student-operated house. I also exercised leadership for two of the campus's premier student performance groups in both creative and business capacities, claiming a national championship title and recording and producing two studio albums in the process. For this work, I was presented by the Stanford Asian American Community with a Performing Arts Award.

I plan to continue my research in social computing by pursuing a PhD program in Computer Science. The coursework and research opportunities afforded by such a program will allow me to explore this area by giving me the tools and techniques to harness the extensive data now being created through social technologies. Through study of how information is transmitted across networks and interpreted by individuals, I aim to build new tools which will aid in gathering, interpreting, and harnessing this information for individual and collective gain. I believe that my interdisciplinary skills and experience combined with focused graduate study will allow me to continue in academia at the conclusion of my degree. As social computing is a relatively new field in computer science departments, the prestige and opportunities afforded by an NSF fellowship will aid me in establishing myself as an eventual candidate for tenure-track faculty. Additionally, the financial freedom granted by an NSF fellowship will allow me to pursue social computing research with interested faculty members who may lack proper funding during this troubled economic time. In sum, the support of the NSF can play an integral role in allowing me to make my mark on this new and exciting field.