Statement of Purpose for Graduate School

My main purpose for entering graduate school is to build upon the strong foundation that my undergraduate coursework in electrical engineering has provided. Through my initial electrical engineering classes, I have learned that I have a deep passion for the field. I would like to cement the foundational concepts I have acquired through further studies in the field so far. Additionally, I would like to make research a central component of my future studies. The reason I feel strongly about making this an integral component of my future coursework is that I feel very strongly there are important and exciting discoveries to be made in the field of Signal Processing, specifically with respect to Speech Processing, and it is therefore this area of the field that I would like to focus my graduate coursework on. My preference and passion for this specific area of Electrical Engineering is most certainly influenced by my past experiences.

Prior to beginning my undergraduate coursework in Electrical Engineering, I considered studying Linguistics. I knew at the time that I really loved learning about languages, a passion which in part stemmed from the travel I had recently completed; in 2013 (when I was considering what to go to school for), I had just returned to the U.S. after living abroad for two years in Santiago, Chile. I had also traveled extensively (I visited over 20 countries between 2011 and 2013) and therefore met people from many backgrounds and cultures. Meeting all of these people and experiencing life in these far-away places left me feeling ‘awakened’ to all of the variety of the world and aware of how much there was to learn about and experience. In particular, I began to love learning about languages. Although I ultimately decided to study Electrical Engineering over Linguistics, my passion for languages has not subsided. It was therefore very exciting for me when I learned of the sub-field of Electrical Engineering known as Speech Processing: a perfect amalgamation of my two strongest passions.

Moving forward in my studies, I would like to make Speech Processing my focal point. In doing so, I hope I can contribute to the field via novel discoveries and meaningful research. In particular, I would like to focus on aspects of Speech Processing that relate to language acquisition, and thus help enhance the current models that relate signal processing to speech generation and perception. I therefore will focus my coursework on important signal processing concepts- statistical modeling, detection and estimation, information theory, stochastic processing, linear optimization and machine learning. In research, I would like to focus my thesis on the application of these studies towards the
understanding of speech acquisition. I have confidence that I will both enjoy and be successful in these studies, in part because of the success I have had so far in the field. I have participated in a number of Speech Processing research projects as an undergraduate at ASU, including one project for which my work was published. In completing these initial research projects, I feel that I have also been primed by many brilliant researchers in the field and therefore can hit the ground running with new research projects. I believe through the combination of these efforts, meaning contributions and understanding can be realized.

I cannot wait to see where this research and education path take me. The fact that Speech Processing so perfectly encompasses my two biggest passion in life both excites me and imbues me with a sense of purpose. I believe for meaningful breakthroughs to be made, it sometimes takes a novel perspective, and these can in part be born from true passion and curiosity. I have both the former and the latter in spades when it comes to Speech Processing, and I therefore feel very strongly that I will be able to contribute something purposeful and useful to the field. I look forward to my future studies and research and making a significant impact on the future of Speech Processing.