**Statements of Purpose**

“Every ceiling, when reached, becomes a floor, upon which one walks as a matter of course and prescriptive right.” Aldous Huxley

I was born in a cultural family where wisdom, love and knowledge were always emphasized upon. My parents are the glorious stars behind my successes at all stages. We used to move many times between several cities of my country in due to my father’s business, which taught me to be able to conform to a new environment as soon as possible.

At age of 12, being the top student in the primary school, I was admitted to a top-ranked school under the supervision of *National Organization for Development of Exceptional Talents (NODET)*. These schools hold a highly competitive entrance exam and pick up the best students to educate. This stage of my life taught me to rely on myself and to improve my self-confidence.

The first signs of my interest of Electronics burgeoned in the first year of high school in *NODET*, when I attended a training class of Logic Circuits and contribute to some simple but practical projects at that period. Working on simple projects and trying to have a remarkable contribution to them made it a memorable and instructive event which sparked my interest in Electronics and appeared to be the right way towards my passion.

I took the *National Entrance Exam* to go to university in 2005; among 400,000 participants I was admitted to study Electrical Engineering at one of the most prestigious universities in Iran and that would be *University of Tabriz* which was the third university of Iran when it was established on 1947, and now it is ranked among top-five universities of the country.

I was formally introduced to the fascinating field of computer hardware in the third year of my studies, in the course on Computer Architecture. The project and assignments that were offered by Dr. **Ghader Karimian** as the instructor of the course, gave me a good appreciation of computer organization and depicted the perspective of the field in future, insofar as I decided to pursue my graduate studies on Computer Architecture.

After graduation, along with the process of applying to universities in the US, I had the chance to be employed at R&D Dept. of Hamadan Glass Co. which has been manufacturing glass containers since 1982. Due to intricate process of glassware producing, the factory works unceasingly, 24/7, so that there are many challenges confront engineers. Working at such a plant not only led me to gain valuable experiences in industrial uses of Electronics but it also introduced me to other fields of engineering somewhat. R&D department had been founded to undertake developing researches and to design and implement practical projects to improve factory performance. I used to contribute to some of these projects since I started to work at Hamadan Glass Co. and the necessity of using real time systems, persuaded me to attend a training on FPGA programming at Novin Tarashe Co. in Tehran, Iran.

I started my master of Electrical Engineering with specialization in Computer Architecture at New Jersey Institute of Technology on fall 2012. I joined ***Computer Architecture and Parallel Processing Laboratory (CAPPL)***, under supervision of professor **Sotirios G. Ziavras**. Working inCAPPL, which has been focusing on parallel processing during recent years, gave me the opportunity to improve my programming ability specifically in VHDL and C programming languages, as well as being introduced to the field of parallelism.

Platforms usually used in the Lab are FPGA based, so that students are well trained to work with their toolsets specially *Xilinx ISE Design suite*. Early in second semester of my master, I started my master project on *implementing image segmentation on vector processor shared with scalar multi-cores.* The vector processor were designed in VHDL and tested on Virtex-5 FPGA evaluation board, by sharing two Microblazes, embedded inside the chip, as soft-cores of the system.

Along with my academic life, I always try not to lose the other facets of my life. In fact, I believe for being prosperous, I should have spiritual and physical capacities additional to knowledge. I have been doing sports such as mountain climbing and swimming for more than 15 years so that I could attain the first place in Hamedan province student swimming championship in 2000. My activities in Mountain Climbing have trained me to gain golden experiences in leadership and teamwork. Being partly a professional photographer throughout Mountaineering journeys has taught me to look at the environment from a different point of view.

My passion for science and interest in technology, particularly computer organization, compelled me to take up Computer Architecture as my graduate study. During my research experience I found this field really attractive to study and realized that there are several specialized subjects which could be studied by continuing researches on this field. For my future studies, I found your program a nurturing and challenging environment with experts in the field, and the instruction in the research techniques that I need for future research. I have ultimately chosen ***Northeastern University*** for graduate studies because of the research labs and the professors, notably professor ***David R. Kaeili,*** whom I am very interested to work with.

I have no doubt that the***Northeastern University Computer Architecture Research Laboratory (NUCAR)*** is an ideal place for me to do multidisciplinary research in the wide area of *Computer Architecture* whichis among the most exciting topic to me. I hope to develop my expertise through your PhD program in *Embedded Systems,* *multi-core systems and parallelizing* or other related areas. My intense and eclectic background in both professional and academic fields will help me not only to do research well, but also to be more sensitive to new ideas and developments of the profession. I have the strongest incentive to advance and to discover something has not been known yet.

*Best Regards,*

*Mohammad Rahbar*