

Statement of Purpose

I was born and raised in Tehran. Although I love this lively and beautiful metropolis, sometimes its crowdedness and pollution which is caused by its under-performing traffic system, infuriate me. If I were able to change a thing about Tehran, it would definitely be its heavy traffic and polluted air, which waste people's time, and endanger not only their physical health, but also their mental health. The only field that can help to manage and control traffic and its effects on pollution is "Transportation Engineering".

As a student I always tried to be among the top students of my class. To enter public universities in Iran, which are highly regarded in and out of the country, I participated in the nationwide entrance exam 20**, and I ranked *** out of approximately 300000 participants. Consequently, I was honored to get accepted to the school of Electrical and Computer Engineering (ECE) at University of Tehran (UT); the oldest, largest and most prestigious university in Iran. For my major, I opted to go with ***, as it is extraordinarily enriched with mathematical and practical topics. During my B.Sc. in the dynamic and competitive atmosphere of ECE, I have passed many courses in various fields, like ***, ***, ***, and ***. This diversity in the curriculum helped me to be an interdisciplinary scholar and have strong perception and knowledge of mathematics which is the principal attribute of a control student.

As a university student I hoped I would be involved in many practical and research projects; however, most of the courses that I had to pass were completely test-based, and this fact decreased my enthusiasm and affected my performance. Nevertheless, after B.Sc., I was offered the scholarship for talented elite students in order to study the M.Sc. Due to the great level of education in *** Department of ECE at UT, I decided to continue my education at the same university. During my master studies I faced a totally different environment than bachelor studies; all the courses I have passed were either project-based or research-based. As a result, I have been back on the track, and up to now I am the top student among all the students in "****" major.

During my M.Sc. studies, I tried to take fundamental courses which were also relevant to hot ongoing research topics of my field such as ***, ***, ***, ***, ***, and *** in which various mathematical and practical aspects of ***, ***, ***, ***, and *** methods were discussed and developed. Because of my enthusiasm in ***, I defined my M.Sc thesis on the *** with the title of "****". In my thesis which is under supervision of ***, I am supposed to use some new forms of *** methods to ***, in order to ***. Given that *** technique is ***, it is very suitable to find the *** which have no exact models. *** problems are influenced by human behaviors that make them very complicated; therefore I think *** is quite useful and proper in this field. Moreover, based upon the knowledge I gained by the courses I passed, I published *** and ***, among which two of them are related to *** and the other one is a ***. Along with the classes I have attended, I have always tried to expand my knowledge by participating in diverse projects such as license plate recognition, *** and ***, etc. that you can find them in my CV. To enrich my background in ***, I attended "****" course as a visiting student of Professor ***¹, member of the ***, and I passed this course as the top student.

Generally, waste of time is a common problem in metropolitan areas that causes a lot of money and resources to be squandered. Alongside the need for investment for further improvement of infrastructures and public

¹ Professor of ***

transportation, still new technologies are needed to completely remove the traffic problems; as they provide the possibility of using the entire capacity of the present facilities in an optimum manner. I know it is more complicated than it seems but I think, now, I am determined to solve this problem with my mathematical background in modeling, optimization, and control. For someone like me who has always been trying to make use of theoretical tools in solving practical problems, working on such a topic with a vast research potential, is of utmost interest. *** and *** engineering is an interdisciplinary field, and mostly it deals with subjects that I am familiar with. As you can infer from my work, my main interest is to make use of what I have learned – *** theory, ***, ***, ***, etc. - in practical problems. With this in mind, I believe my backgrounds and interests have prepared me to be successful in transportation research.

In my future life, I would love to continue my career as researcher even after I receive my PhD; it is greatly satisfying when one can engage in solving new problems and find solutions for them to help other people have a better life. So my main goal is to become an industrious researcher in an academic environment or in R&D of a prestigious company. In the meantime, I would like to be a research assistant in the university and do serious researches parallel to taking several required and elective courses.

Now, I have a great motivation to take the next steps toward my ambition and future by attending an advanced graduate school. As a student and a researcher in the field of “***”, I have been always hearing about the department of *** at the University of *** as a world leading department in this field, and its esteemed professors such as Professor *** and Professor ***. Moreover, cooperation of “***” group with other related organizations has made this group the most desirable place for graduate studies. I believe that the department of *** at the University of *** will satisfy my strong desire to work and research on the area of ***, *** and *** of *** systems. I found Prof. ***'s papers and research interests very stimulating and similar to mine, thus I contacted him ahead of time and he encouraged me to apply to the University of ***. I am aware that University of *** expects very high standards from its students. On my part, I can assure you of hard work and motivation. Based on my consistency in all previous academic and co-curricular activities, I believe that my enthusiasm and confidence will enable me to meet those expectations.

PhD Applicant
***** 2012**