Personal Statement

I remember when my Biology teacher at high school, Miss Alyah, was trying to convince me that I should go to college of medicine. It was usual in Oman for students with high grades to study medicine at Sultan Qaboos University (SQU). My family also wanted me to apply to either the college of medicine or the college of education at SQU. I was not at all interested in studying medicine or becoming a teacher at a school. Science was the stream I joined at high school. Hence, I naturally decided to join the college of science. At that time I was not sure of what major to choose. Mathematics and physics were the two options I was thinking of. Before joining college, I knew nothing about computer science. As students at college of science we had to take three required subjects out of four, one of them was an introduction to computer science. I took it and found it a new fascinating subject to me. Its logic and resemblance to mathematical thinking were appealing to me. Mathematics was my best subject at school since it involved abstract thinking. I found the abstract thinking in computer science as well. Therefore, I made my decision to major in computer science.

After five years of study at SQU, in June 2004 I obtained a B.Sc. in computer science with a GPA of 3.96 and was ranked the top among computer science graduates. I had the experience to work in research during our final year graduation project. We were a team of three undergraduate students and we worked under the supervision of Dr. Hamza Zidoum, a computer science assistant professor at SQU. The project was to develop and implement a morphological analyzer for Arabic verbs and particles. Together, we published a paper titled "Three-level Morphological Analyzer for Arabic Verbs and Particles" at the International Conference on Artificial Intelligence and Soft Computing, 2004, Marbella, Spain.

In October 2005, I was awarded an offer for a PhD research scholarship at Dublin City University from the Science Foundation, Ireland (SFI). The research was supposed to be on automatic Treebank-based, Arabic LFG grammar induction. At that time I was still a new employee at SQU and the regulations didn't allow me to go for a master's degree abroad before completing a number of years working at the university. I decided to stay at my job and decline the offer since my goal was to get an academic position at SQU.

During my work at SQU, I attended a couple of master courses as an audient. One of them was a course in combinatorics from the Department of Mathematics & Statistics. The other is a network course from the Department of Computer Science. I had also taken a master's level course in algorithms & complexity in fall 2006 and obtained a grade of A. I also attend regularly the seminars held at computer science department.

After completing two years of work at SQU, I started again to look for a scholarship to pursue my higher education. I applied at several Canadian & British universities and got an offer from McMaster University. I joined their program in January 2008 under the supervision of William F. Smyth, professor emeriti at Computing and Software (CAS) department. There I worked in the area of string algorithms and joined the algorithms research group. In summer 2008, we started a project to survey Lempel-Ziv factorization

(specifically LZ77) algorithms which resulted in a paper titled "A comparison of indexed-based Lempel-Ziv LZ77 factorization algorithms"[1]. The paper appeared in ACM Computing Surveys 2013. In August 2009, I finished my study at McMaster after defending my thesis "*Using Suffix Arrays for LZ Compression* ".

Currently I work as a lecturer at the Instructional and Learning Technologies (ILT) Department, College of Education, SQU. I teach computer science related courses like programming and networking. Prior to this position, I was a technician at ILT. Although my job title at that time was computer programmer; my job involves little if no programming at all. It is more of a user support and technical job at the computer labs of ILT department. During my work as a technician at ILT, I gained a modest experience in teaching through several attempts to teach practical lectures in IT related courses. I worked in developing my teaching skills through training courses in creative teaching and the use of neuro-linguistic programming in teaching and learning. I took a course back in May 2005 in creative teaching which was given by Dr. Najeeb Al-Rifaee, a well-known researcher and lecturer in the area of teaching and learning development in the Gulf region.

When I started teaching at ILT, I got interested in the topic of how we should teach programming courses to non-computer science students like education students and the area of assessment in computer science courses. Moreover, I got interested in the different applications of AI in education and how we can use AI to enhance students' learning. In 2011, I got a scholarship from SQU (my employer) and my department requires that I work in a topic that would benefit the college of education and ILT. This might be one of the reasons I made the shift at that time. I'm making another shift now as I'm looking into the opportunity of continuing my PhD in Data Mining/Data Science, but I think I'll still benefit from my previous experience in the areas of NLP and string algorithms. In 2012, I got a PhD offer from the Department of Computing at the University of Alberta. I accepted the offer and started my study in September even though my health was suffering at that time as a result of chronic migraines. I pushed myself so I won't lose my scholarship and the offer but that resulted in suspension of my study after one semester and then withdrawing from the program. I decided to focus on my health before looking for other opportunities to continue my study. Today, I feel I'm in a better position to do my PhD. I have a positive outlook to the crisis I had and I think it was an opportunity for me to learn about Data Mining and its importance for the future. My country is in need for experts in Data Mining/Data Analytics and I would like to fill this need.

Currently, I'm involved in three research projects at the Instructional and Learning Technologies Department at College of Education in SQU. The first project is about the use of ebooks in teaching and learning at SQU. We started our research by investigating the students' uses and perceptions of ebooks at SQU, and it turns out that around 66% prefer printed books. We are at the stage of writing the paper for the results we got from our survey. Next, we plan to look at the faculty's use and perceptions of ebooks. Our ultimate goal of this project is to measure the readiness of both SQU faculty and students for the

[1] It was a team project, we started as three graduate students under the supervision of Prof. William Smyth and the team soon grow

use of ebooks and provide a model/framework for SQU administration which provides practical guidance (i.e.how to) and policy/regulations.

The second project investigates the Omani females participation in Computer Science CS education and in the workplace. When I was studying in Canada (both at McMaster and University of Alberta), I noticed that there were not much females in computing and there were a lot of efforts to attract females to the Computer Science and Engineering in general. I wondered since I didn't feel we had this problem when I was an undergraduate, the number of females were almost the same as males if not higher. Last year, I've read an article in Communications of the ACM titled "Decoding Femininity in Computer Science in India". It seems the situation there is similar to the one in Oman, as they don't have a gender gap in CS education. This intrigued me to investigate the situation in Oman. We have formed a research group of four faculty members and we are still at the beginning. We are currently working on getting statistics of females and males in CS programs in higher educational institutions in Oman. Our ultimate goal is to find out if we have the gender gap or not, and if Omani females are attracted to CS as we are predicting. Then, we want to investigate the societal, cultural and policy factors behind this.

The third project is in the area of Educational Data Mining EDM. We recently have formed a group in EDM which consists of three faculty members, one educators from Ministry of Education, and one undergraduate student at ILT department. The group is still in its infancy stages. Currently, we are the stage of learning about the area and investigating the available tools in EDM. Our main goal is to use EDM to improve students learning. We plan to work in two main issues as a start. First, we will be reviewing different frameworks in Data Mining - specifically CRISP DM, KKD, and SEMMA- and investigate if they have are perfectly suited to the educational settings. If we found any disadvantages, then we plan to work on proposing a framework that is more specific to the educational settings. Second, we will also start a small project looking at data resulted from activities (debates and discussions) created by one of the group members in her course. Our goal is to see how the students interact with each other and if there are any patterns that we can use to make the design of such activities more efficient and support learning.

My ultimate goal is to pursue my higher studies to obtain a PhD and acquire an academic position at the department of computer science, at SQU. It is my belief that working in the academic field would guarantee me knowledge acquisition through teaching and research. I consider teaching as a hidden learning process. A person would probably learn more by teaching. To be able to transfer knowledge to other people, a person must first acquire this knowledge and master it. Research is another interesting way to gain knowledge in specific areas. My interest in this field was flourished throughout years of scholarly work, both as a student and an employee, at SQU. I have the qualifications, skills and motivations to pursue higher education in computer science.