**STATEMENT OF PURPOSE**

It has always occurred to me that, in any kind of problem, the ‘HOW’ part in a problem is always more important than the final solution itself. Proper insights about the problem like, identifying cause and patterns, possible solution alternatives and their pros and cons, will always help in providing a robust solution. This is the reason, given any problem, I have always spent more time analysing and planning rather developing and implementation itself. And this is the same strategy that I have always had in mind since I wrote my first computer program.

On the later part of my under graduation I had gained a deep understanding about the working of an Atmel 8051 micro controller. This understanding helped me in my 8th semester major project. My project included a GPS guided vehicle with a mechanical arm. This arm was controlled using the 8051 micro-controller and stepper motors. I had used my knowledge of the micro-controller to completely program the movement of the arm. After the project I and my team prepared a group thesis paper about the complete project where I had explained the technical details about the functioning of the arm. I had researched thoroughly about this project and was confident enough to provide my views about what are the shortcomings of the project and what future improvements can be made. Our paper was selected as the best research paper of the year by the panel of judges that consisted of all honourable HODs from all the engineering departments of our college.

###Our thesis was selected as the best project paper of the year.

After graduation while I still had time to join my first company TATA Consultancy Services Ltd (TCS), I decided to hone my programming skills further by taking advanced Computer Programming courses like C++ and Oracle SQL and passed those courses with A+ grade from a reputed institute. Also, TCS conducts a basic level of training and an entry level examination before joining that consists of basics of Operating system, data structures, computer architectures (add other things in the same) and secured 92% in the final exam.

After I joined TCS as an associate trainee I had the opportunity to learn JAVA, UNIX and SQL as part of their initial training program and completed these training courses with 5-star gradings. After these training I was selected to lead a group of 4 others to develop a website for the company to manage incoming couriers efficiently. During the next 10 days we presented a technical design model of the website. Since it was time to join our respective departments in the company we handed over the project to our immediate juniors with the login portion successfully implemented.

I joined the ‘Support and Maintenance’ team of Banking and Financial Services business unit where I made use of my knowledge in above mentioned programming languages in a real-world scenarios. I started with automating simple day to day tasks like checking the quality of files delivered to us based on company standards, which critical files are still left to be delivered etc. The number of files were in hundreds and all these were either checked manually or only came to notice once there were failures because of the missing files. Once this program was deployed into production, it helped to save at least 2-man hours every day.

####Why MS? What is your area of specialization? Why MS now?

In this same project we faced problems like missing data, incorrect data, incorrect file format, incorrect column spacing to name a few. Our traditional way of investigating the cause included steps like manual searching and comparing which only resulted in temporary time-consuming fixes. And as the volume of data kept increasing, the problems became more frequent and fixing these problems time and again resulted in delayed project delivery. Permanent fixes were not feasible every time and we had to hugely rely on these temporary fixes only. So, to streamline the process of investigation, I started exploring the different ways in which we can arrive at such solutions in a more simpler way.

After talking to experts who are currently working in this field and a thorough research on the internet I found out that Python is quite useful in these situations. I started to enrol in different online courses. After having complete relevant knowledge about Python, I moved towards python modules for large data handling like **NumPy** and **Pandas**. I applied these modules to analyse the same problems we had earlier and saw a significant gain in time as well as reduced efforts. Being associated with the service industry for quite long, now I can vouch that there are variety of areas in the industry where such application could be useful, and overall customer experience can be improved. Hence, I started devoting 2 to 3 hours every day besides office to gain more insights.

But haphazard choices of courses, lack of guidance and very limited scenarios to practise led to a slow progress. To overcome these obstructions, I decided to devote my further dedication to a full time Masters program. And when it comes to pursuing MS in this field, the Data Science track of ‘**Master of Science in Computer Science’ offered at USC** is a one stop solution which will not only provide me with a comprehensive understanding of the subject but will also provide me with ample opportunities to practise and apply my learnings.

Why this particular university?

#####Goals /

Short-term and long-term goals– Since I already have a taste of the kind of problems that I am facing in my corporate stint, I plan to learn the data **analysis** and **visualization** techniques in absolute depth. Later I plan to move to advanced Data Science topics like the different **Regression Techniques** and other Machine Learning algorithms. Having these plans in mind I can see that the USC Data Science curriculum is completely in line with the goals that I have. Once I have gained the required knowledge I am planning to work as an intern with any of the data science behemoths preferably in **Natural Language Processing** and join the prestigious ‘**Natural Language Group**’ at USC and make use of my learnings. I am confident that this will be the exact time to get the actual flavor of what challenges lie in front of me. Once this internship is over I would like to work on these challenges and gaps. And by the end of my post-graduation I am willing to work in large scale AI projects like the Google Assistant. I am really planning to understand how the language processing algorithms work and I would like to contribute my learnings towards the same. Only after I have contributed significant amount of dedication towards this domain I would like to move on to explore other innumerable fields especially in ‘**Predictive Analytics**’ where I can use my understanding and knowledge to simplify and enrich both human lives and experiences.

#####extracurricular activities (before conclusion, short paragraph):

During my under graduation I was associated with numerous extracurricular activities that included hosting events like C++ code wars, Web application workshops etc. During my corporate stint, I was also part of a public speaking forum called the Toastmasters International. In this forum, I have also served as the Vice President Membership and have hosted club contests from time to time where I was awarded the Membership award by the Toastmasters International for inducting more than 15 members. All these have helped me to become a better communicator as well as a better leader. And these 2 qualities will help me in both on Campus and employment with any future companies in fields like understanding what is being expected, what needs to be delivered and how efficiently it can be delivered.

Conclusion

I have not only been keen on learning computer programming subjects but have always find ways in which these learnings can be implemented. I have also focused on all round development including my technical and interpersonal skills. Will add more.

In order to find simpler and efficient way to achieve the same result, I r

I was always sincere about the computer science subject that were offered in during our Under-graduation. I have learnt C programming in 1st semester, algorithms and data structures as an elective in the 5th semester and SQL in 6th semester and aced these subject with a B+ and A grades in theory and practical respectively.

####Why MS? What is your area of specialization? Why MS now?

Working in the financial domain as my project in TCS, I have handled large amount of critical data. And at the same time being in a ‘Support and Maintenance’ project, I noticed that analysis of such huge chunk was both . There were a lot of unknowns and hit and trials involved. And all this was because we did not have a root cause analysis model in place. This encouraged me to explore the different ways in which we can have a better perspective of the problem before we can jump to the solution. This is how I developed my interest in data analysis involving. The next thing I did was to talk to experts who are currently working in this field and did a thorough research on the internet and realized that the applications of Data Science have permeated into almost every technological field. As I kept on exploring the applications, my interest kept on soaring. I started to enrol myself with different online courses relevant to Data Science. I started with learning Python and after having complete relevant knowledge about Python, I moved towards python modules for large data handling like **NumPy** and **Pandas**. I devoted around 2 to 3 hours every day besides office and to speak the truth I saw very slow progress. The reason being haphazard choices of courses and lack of guidance in case I am stuck with a problem. And besides all these, the problem of very limited scenarios to practise was completely unavoidable. My constant growing interest about the subject but unavailability of proper resources helped me decide to devote my further dedication to a full time Masters program which will not only provide me with a comprehensive understanding of parts(think of a better word) related to Data Science but will also provide me with ample opportunities to practise and apply my learnings. And when it comes to pursuing MS, the Data Science track of ‘**Master of Science in Computer Science’** is a one stop solution. And the courses provided by University of Southern California is a complete package that will provide insight about the subject of Data science in all possible dimensions. There is absolutely no doubt that USC is renowned to provide unparalleled cutting edge degree courses(think of a better term) to students worldwide.

Now when we aimed for a permanent fix, we realised the tediousness of the process. But at the same time the targeted result was achieved although via a much circuitous (ask counsellor if we need to add specific) path.