I have always been curious about the complex and intricate mechanisms involved while making any product. In order to satisfy my interests, I chose the undergrad program in mechanical engineering. In this article I have tried to elaborate my aspiration to continue discovering concepts at an advanced level at UT Dallas.

During my voyage through the course curriculum of mechanical engineering I developed interest in applications of numerical analysis in heat transfer and fluid flow. Consequently I opted to work on a project that used numerical modelling and simulations. It involved determination of optimum residence time of slabs in a reheat furnace. While working on this I developed aptitude for using literature review and software tools to advance in research. This came in handy when I worked on an industry based project with one of my professors. An organization had approached him for CFD analysis of screw turbines. I used FLUENT to analyse the performance of turbines based on various flow parameters. I went on to present these results at a national conference. Some of the PhD participants at this conference inspired me to pursue a career in research. I believe that masters at UT Dallas would lead me towards my goal.

For the purpose of increasing my expertise at research in an actual industrial environment, I interned at Aditya Birla Group Corporate Business Excellence. The aim of this unit was to guide the manufacturing and service sectors of the conglomerate. Here I was assigned the task to develop a model to determine optimum parameters in a cement manufacturing mill. To achieve this, I used neural networks and global optimization in MATLAB. Finally I designed a desktop application that calculated the optimum parameters. Here I learned to apply the theoretical concepts into practical applications. I plan to foster the necessary skills at UT Dallas, to make significant contribution to the industrial research.

In my seventh semester I was selected to be a 'Teaching Assistant' for the course 'fluid mechanics'. My responsibility was to suggest minor changes to coursework, grading class tests and preparing question banks. This period helped me understand the challenges in academia. Furthermore I developed an interest to pursue a career in this field. In this regard, I believe UT Dallas would be the perfect place for me to hone my skills.

In conjunction with academia I also developed enthusiasm for eight ball pool while in college. I learnt the game in a short span of two weeks and participated in the college's doubles tournament. My team secured second position in the tournament. I want to explore the themes of heat transfer and fluid mechanics in depth. Therefore I went through several of the engaging works by the professors at UT Dallas. I found Prof. Andrei Fedorov's work on refrigerant flow boiling in microgaps to be exciting. The discussion on flow boiling visualization engrossed me the most. Also the work by Prof. Sheldon M. Jeter on high temperature thermal energy storage was appealing. The novel and cost effective idea of using particulates to increase the efficiency of the storage galvanized the interest in me. I wish to be a part of their research groups.

To sum up, I am passionate about the themes discussed above. My ultimate career goal is to pursue research in these areas, either in academic or industrial environment. When I studied the works of the professors and the achievements of the students I could relate them with my objectives. Motivated by this, I chose University of Texas at Dallas to cultivate the competency for research and overall development.