Statement of Purpose

With an aim to be an instrumental part of the Electronics industry, I undertook my undergraduate degree in Electronics and Telecommunication Engineering from the reputed National College of Engineering affiliated to University of Tribhuwan University. My academic background in Electronics and Telecommunication Engineering coupled with my innate interest to explore the nuances of the industry, I have realized and observed a drastic yet consistent sophistication in the electronic products and services across the world. My exposure to the development and functioning of products and services like high definition TV infrastructure, mobiles, tablets, broadband Internet services, satellite broadcasting and GPS technique has intrigued me to the core and led me to believe that there is much more to create, explore and discover in this field. Thus, my decision to now pursue my graduate degree in Electronics and Communications seems the most logical extension of my academic career.

During my undergraduate study, amongst the subjects I was exposed to, courses like Digital Signal Processing, Computer Networks, Mobile Communication, and Telecommunication Switching System enthralled me. Also, emphasis on practical sessions based on Coding and Modulation Techniques, Spectrum Analyzer, Digital Storage Oscilloscope, MATLAB software and Networks greatly enhanced my interest in the field of Communication.

I have always garnered an interest in developing projects that positively affect the society as a whole. Pursuing my interest, in my third year of under graduation, I along with my team members, developed the project “Advanced Bus Tracking System & Management for Passengers”. The project involved a system that displayed inside the bus as well as on the platform the nearest and approaching buses, stations and approximate distances between stations. For this, we deployed use of (AT89C51) Microcontroller and (CC2500) Transceiver. My role in the project was to design the circuit and the printed circuit board (PCB) using Proteus software. Moreover, we developed, simulated, and implemented the code of the project using Keil software. In India, where population density of people (and of buses) is very high, the

project instantly clicked with the passengers while testing with the Transportation Department.

Later, the project “Advanced Bus Tracking System & Management for Passengers” advanced into more people centric “Smart Passenger Assistant System with Advanced Bus Security” based on Embedded System & Wireless Communication. As part of this project, the safety systems in the bus sent warning messages to emergency numbers in case of accident and fire. Here, we used the Arduino platform and designed the circuit and the Printed Circuit Board (PCB) using Eagle software to make the system even more versatile. During this project, I learned extensively about sensors, GPS and GSM technologies. This project led me to visit Bharat Sanchar Nigam Limited (BSNL) - India’s largest telephone company and Prasar Bharati (Doordarshan) - the oldest and largest public broadcaster, to gain first-hand experience of these technologies. The scale, at which the various baseband systems employed in the reception and transmission processes of real time data work, captivated me. I also gained a whole new perspective about Antenna and Wave Propagation System.

I am currently undergoing training at BSNL, where I have learned the basic concepts of Telecommunications. As part of this training, I also aim at learning different technologies involved in current generation telecommunications products. My long-term goal is to work in the research and development sector, where I want to develop product designs with high efficiency and productivity which will prove beneficial for society. I believe pursuing MS in Telecommunications and Network Engineering will lead me towards fulfillment of my career goal.

At University of McGill University, I would expand on my technical horizons by learning from theoretical courses like Wireless, Cellular and Personal Telecommunications, Fiber Optics, and Network Security. I would also expose myself to the practical aspects of Telecommunications, by working at the Antenna Lab and Wireless Systems Lab. The research being undertaken in the field of Antenna Design and Wireless Communications is closely aligned with my interests. The opportunity to work and study under Prof. ABC and Prof. XYZ will serve to enhance my understanding of the subject, and give me the edge I require to become a successful Engineer in this field. If given an

opportunity, I assure you my dedication, diligence and my desire to excel would allow me to make a remarkable contribution to the university. I look forward to a positive response from the admission committee.