

## **Statement of Purpose**

“10,000 people killed and 3, 00,000 houses destroyed” is not a piece of mundane news to hear. A 7.8 magnitude earthquake jolted Nepal causing catastrophe, during my sophomore year. Aftermath disclosed that most of the destruction of the residential buildings were magnified due to faults in structural aspects. During volunteering for earthquake relief camp, it was revealed that even some newly built houses were damaged whereas some old houses managed to survive the jolt. Various factors including minimal use of reinforcement, inferior construction materials, large door/window openings, the absence of tie and plinth beams reckoned to be reasons for failure. These inadequacies occurred due to reliance on inaccurate data, the generalization of building codes and lack of adept structural engineer to account for the seismicity of the zone. In pursuit of the solution, I found studying structural engineering and revising the Nepal building code as the answer.

Undergraduate subjects like “RCC structures”, “Design of steel and timber structure” and “Theory of structures” strengthened my base and widened my horizon. In the final year of bachelor’s, I took “Structural dynamics” and “Earthquake resistant design of structures” as my elective subjects to gain in deeper insights. There I got to know majorly about the behavior of structure subjected to dynamic loadings and seismic effects of an earthquake on structures. Also, I did my final year project on “Seismic resistant design of multi-storied RCC building”. Thriving for more, I decided to pursue a Master’s degree in structural engineering with extensive research.

After completion of undergraduate in December, 2017, I have succeeded in Public Service Commission of Nepal in September, 2018 and joined Ministry of Urban Development, Department of Urban Development and Building Construction as Civil Engineer. Since then, I have been working for the organization and I’m lucky to I’ve got chances to work in all three regions of Nepal i.e. Himalaya, Hills and Terai. This exposure boosted up my confidence, intellectual growth and communication skill. currently my posting is at Federal Project Implementation Unit, Janakpurdham. During my work I got involved in design, drawing, estimate, procurement, supervision and execution of several building project. Among them design part is my favorite. Also, I became competent in the use of software like AutoCAD, SAP and ETAB. I realized from my work experience that almost all RCC structures contain the same reinforcements and concrete grade irrespective of the seismic zone and ground condition of Nepal. These shortcomings in the design standards consolidated my choice to pursue a master’s degree from a recognized College to contribute to the betterment of the design standards of high-rise buildings in Nepal. Thus, Bombay with plenty of skyscrapers, managed urbanization, a plethora of prestigious universities, appeared to be the best choice to quench my thirst for learning design of high raised buildings, keeping the seismicity in an account.

Studying in the IIT, Bombay obviously deems to be a far-fetched dream for me; then again, the road till now was also not evened out. Since early childhood, I had realized that scholarship is the only way out to get a quality education if you have weak financial conditions. So, studying hard was the only route. Within this compulsion, there was an innate liking for mathematics and calculations which turned obligation into drive. With age, I grew fascination towards the craft of an engineer, an individual who is capable of constructing novel structures and modifying existing ones for the benefit of people and betterment of the nation. The burning desire to contribute to the betterment of infrastructure and city planning, amalgamated with an innate liking towards mathematics, led me to the path of civil engineering. A scarcity of better roads, underpasses at junctions, a planned city with a designated market and residential area acted as stimuli. So, after high school, I started preparing for the entrance examination of the nation’s best engineering college, Pulchowk engineering college. I managed to get admission in the civil department with a full scholarship. Hardship coupled with determination paved the path of civil engineering.

Being a leading College in the India with in the field of structural engineering and seasoned professors, IIT Kharagpur became my first choice to pursue a master’s degree. The well-equipped labs and extensive research programs would infuse valuable experience which could be instrumental in improving design and safety norms of structures in my country. Additionally, the vibrant environment and abundance of international students would definitely enrich my experience here at the College. Hence, it would be my great pleasure to be a part of the college where I could not only learn but also share my experience and knowledge to gain a better world and future.

I hope that my innate interest, enthusiasm, dedication, and sincerity will find a place in your esteemed College. I am pleased to provide any supporting details.