

### **Statement of Purpose**

Numbers and analytical conundrums have held a strong fascination for me since childhood. Whether it was solving puzzles or participating in Mathematics Olympiads, I was always engrossed in numbers. My academic and professional journey has built a solid foundation of engineering and mathematics and I wish to further my erudition in this field. By pursuing the immersive MSc Mathematics and Finance Program at Imperial College, I look forward to working on the intersection of finance and mathematics, exploring the mathematics and science behind financial applications, learning about fundamental finance theories and models and implementing them in real financial markets.

Academic excellence, overcoming obstacles, and stepping beyond the comfort zone has been a central motif in my life. From securing a 100% in Mathematics in Class X to outperforming an army of engineering aspirants across the country to secure admission in the prestigious IIT BHU., I have always strived to persevere. Ranking 3289, I was amongst the top 0.6% of the students who appeared in IIT-JEE 2010 and amongst the top 0.2% of the students in AIEEE (All India Rank – 2191). Studying at IIT BHU, a preeminent technological institute in India was the culmination of a childhood dream and I continued nurturing my passion for numbers and logical reasoning through coursework in Linear Algebra, Calculus, Probability Theory, Statistics, Numerical Methods and Optimization, Engineering Mathematics, Elements of Mechanical Engineering, Communications, VLSI, CAED, Electronic circuits, and Embedded systems etc. I also worked on several projects including one on image processing using MATLAB for computer vision in cellular manufacturing to identify shape of objects like cylinder, cone, and sphere for sending them to different cells according to the requirement. My Major project was designed to study the deformation of different materials under impact load. While the projects honed my engineering skills, they also taught me the importance of time management, leadership, discipline and team spirit.

Post my B.Tech, I joined Misys Ltd. as a Software Engineer through my campus placement. Here I got the opportunity to work on “Loan IQ-Fusion Risk Integration” project for the integration of lending software product (Loan IQ) with a financial risk software product (Fusion Risk). Building and validating quantitative models for ‘EIR Amortization Method’ of financial assets gave me invaluable experience in the financial and technical domain. I transitioned to the position of a senior associate at Morgan Stanley where I worked as a software developer in the Institutional Securities Division team. My present position as an Associate in JP Morgan has provided me an opportunity to work on Model Risk Governance and Review (MRGR). Exploiting my strong mathematical aptitude and expertise, I have conducted time series analysis of Greeks and statistical analysis of the P&L at various levels. I have also performed hypothetical hedging on positions for P&L analysis, residual analysis and hedging efficiency monitoring using python, pandas, numpy, scipy, scikit-learn.

Evolving personally and professionally, I have gained the ability to work as a team, look at the bigger picture and arrive at a holistic solution to any problem. At this juncture in my professional journey, my keen interest in analytics and mathematics and the desire to align my career in areas where I can fully utilize my mathematical expertise and experience propel me to pursue a Masters in Mathematics and Finance. I have prepared myself for the rigours of this masters program by completing CFA Level I Examination wherein I secured the top percentile in eight out of the ten modules. I have also cleared the FRM level I Examination covering Foundations of Risk Management, Quantitative Analysis, Financial Markets and Products, Valuation and Risk Models. I firmly believe that the knowledge that I have gained through academics and my industry experience have provided the necessary grounding and skill-set will serve me well in successful completion of the program.

With 14 Nobel Laureates and 4 Fields Medalists, and ranking amongst the top 10 Global Educational Institutions, Imperial College is the gateway to an international career in Finance. I am quite confident that the end-to-end financial expertise and knowledge with emphasis on experiential learning and impeccable guidance at Imperial will chisel out the finance professional in me. The MSc Finance is a CFA partner programme with an impeccable worldwide reputation. The innovative and research based curriculum with core subjects like Derivatives, Financial Econometrics, Empirical Finance etc will provide me with the necessary edge to lead in this competitive industry. From programming workshops to develop live implementation of financial models to an applied project or experiential learning through a work placement, make the MSc finance Program a flagship experience. Taking courses under preeminent professors like Alexander Michaelides and Robert Kosowski, who are industry specialists, will be a dream come true. With more than a dozen electives like Big Data in Finance and Advanced Corporate Finance to choose from, the program will surely add wings to my professional aspirations.

In the near future, I envision myself as an expert Quantitative Analyst in implementing my newly acquired data analysis skills for business processes in a leading global financial corporation. The Imperial community is a mélange of extraordinary academicians and a diverse student network. Gaining from the intense intellectual conversations, research projects and the vibrant student organizations and all the incredible resources available will help me to achieve my goals.

Thus, it is with deep admiration and hope that I apply for a Masters in Mathematics and Finance at your pioneering University. With Imperial's world-renowned faculty, outstanding peer group, and strong industry network, my dream of a cutting-edge career in finance will certainly be fulfilled, and I would further enable a multitude of people to realize their financial aspirations.