

STATEMENT OF PURPOSE

Shreya Kapoor

Research Internship Applicant

“Everything should be made as simple as possible, but not simpler.”-Albert Einstein

Physics is the most fundamental and mother of all sciences. Every problem has an elementary step involving interplay of physical concepts. The methods provided by the study of this subject helps one develop intuitive first principles sense to approach the unexplained. The Physics method is not a recipe, but rather an ongoing cycle that is meant to be applied with intelligence, imagination, and creativity. The very genius of a mind is to find logic amidst chaos, pattern recognition stimulates the scientific mind.

The interdisciplinary nature of latest scientific research inspires me to combine my interests and make a valuable contribution of science. The inherent relationship of Mathematics, Physics and Computational Sciences provides us with the ability to unravel any phenomenon; this has excited me since high school.

Theoretically proven Quantum Entanglement can allow for fast information transfer and can be a revolution in the field. However, the breaking down of quantum systems in the real time world has made us unable to use the properties of the systems. My curiosity lies compels me to delve into the realms of a counter-intuitive process. Through the course of this internship programme I would like to satiate my curiosity by developing a simulation of quantum bodies using Machine learning.

To me, computer programming is one of the most creative pursuits, just like playing the piano it gives an aesthetic ability to simulate any process that can be described mathematically and get instant results. For every lesson taught in the classroom I search for a way to represent a concept computationally as it enhances the ability to go step by step and gives insight as to what set of parameters lead to a particular output: it helps me find reasons.

Further, my exposure to different technologies has made me adept and flexible to new systems. I always take a creative approach to problem solving. A challenge is a way to learn more and strive hard to complete whatever I commit myself to. Assuming leadership positions and carrying out logistics for various academic activities has prepared me to handle different types of tasks. I can effectively communicate my ideas to after being a participant and organiser of various workshops and seminars. Being the President of the student's council, teamwork and peer collaboration have been my strengths.

All in all, this internship experience will be a chance for me to challenge myself and extend my horizons, not only will I have from the experience of being part of a different culture and getting acquainted with different perspectives but will also be a chance to realise the future as I am keen on applying to IST for my masters' program. An early association with the institute will help me align my goals with a strong commitment for the institute.