Statement of Purpose

The exciting world of Bioinformatics spans Biology, medicine and IT sector. Challenges in Bioinformatics are to select and evaluate computational biology algorithms, to build and make them all work together in a high-throughput manner to produce high quality results. Its multidisciplinary approach includes computational, mathematical and statistical methods to study, organize, analyze and interpret biological information at the molecular, genetic and genomic levels. Bioinformatics plays a key in unraveling information that is generated by large scale sequencing efforts underway in laboratories around the world. My interest in Biology as well as Computer Science and a curiosity to study analytically the co-relation between these led me toward Bioinformatics.

I developed inclination in comparative genomics, Structural Biochemistry and Algorithmic Bioinformatics. While studying pharmacology and sequence analysis I also developed interest in genome annotation, prediction of gene expression, high–throughput screening (HTS),pharmaco-genomics and working on drug discovery, drug delivery systems, research in G – protein coupled receptors (GPCRs) and protein kinases. I also learnt C, C++, Data structure and Java etc which are useful in handling data, obtained during experiments.

During under graduation, I took training at Serum Institute of India Ltd. and learnt actual manufacturing of vaccines, working at Pharmaceutical Industry, functions of Quality and R & D. I have presented a seminar on TurboBLAST, a parallel implementation of BLAST, suitable for execution on networked clusters of heterogeneous PCs. Later I took a project at Pune University, on the sequence, structure and phylogenetic analysis on the GH family 10 & 11 xylanases. This study helped the further research to be carried out on xylanases at the departments of bioinformatics and microbiology.

This led me to pursue a graduate course at Indiana University Purdue University Indianapolis. Here, I worked on projects addressing problems in bioinformatics. One such project was the creation of a repository of diabetic proteins, where we created a database and an interface for querying of proteins related to diabetes and the information on their genes, pathways and related drugs. Another project included the creation of a decision support system for clinicians, where we created a database and an interface which will be useful in guiding a physician for prescribing right medicine for a patient based on the input information on the symptoms. Simultaneously I am also working as a research assistant on a project which mainly encompasses discovery of Transcription Factor binding sites in Toll like receptor (TLR) genes.

I am also working as a student intern at University Information Technology Services at IUPUI, as a Web Developer with the Web Tech Services Team and learning important techniques in the actual implementation of all the programming languages, their use and management in developing a particular website.

My objective is to succeed in the field of Bioinformatics which has abundant scope in several areas of biological and pharmaceutical sciences. To achieve this I am looking for internship which will strengthen my theoretical foundation and computational skills. Of particular interest to me is the research work developing computational tools that can interpret the large volume of complex data. I look forward to becoming a member of your community.