

OBJECTIVE

To spread my limited knowledge to everyone who is in search of it. In short Teaching and research are my passion.

RESEARCH INTERESTS

Statistical genomics and proteomics, Genome annotation by Signal (Cis regulatory elements) prediction, and Machine learning.

QUALIFICATION

BS-Bioinformatics 2007-2011,

COMSATS Institute of IT,

CGPA 3.83/4.00

PROFESSIONAL EXPERIENCE

Research Associate at COMSATS Institute of IT, Islamabad, May 2011-present.

AWARDS

Secured 7 merit scholarships during BS on securing first position in my batch.

PROJECTS

- Developed software named as ISREF in Java to predict Isochores.
- A Program for Reading and Annotation RefSeq Chromosomal files.
- A program for secondary structure prediction of proteins using Chou Fasman algorithm.
- Implementation of Needleman-Wunch and Smith-Waterman Algorithms in JAVA.
- Implementation of Brute Force, Boyers Moore and KMP algorithm for searching pattern in DNA sequence.
- Developed software named as PPARF used to predict polyadenylation sites in Arabidopsis thaliana as final year project.
- Currently working on PPARF-Rice for polyadenylation site prediction in Rice. Intended to complete in a month.

BIOINFORMATICS SKILLS

Basics of Computing:

Operating systems, Internet, and Bioinformatics resources on the Web.

Programming languages:

C, C++, Java, Perl, Html, and Sql

Biological database search:

Sequence and structure databases, Genome and Organism Specific databases, file formats associated with databases.

Protein Sequence Analysis:

1. Primary Sequence Analysis
2. Similarity Search – BLAST, PSI BLAST, PHI BLAST, FASTA
3. Multiple Sequence Alignment – Clustal W, TCOFEE
4. Phylogenetic Analysis – PHYLIP

Genome Analysis

1. Comparative Genomics tools – Blast 2 seq., Mummer, Genomic BLAST
2. Gene prediction- Sequence Manipulation Suite (SMS ORF Finder)
3. Annotathon for annotation of anonymous sequence
4. Application of Linear Discriminant Analysis and Expectation maximization for genome annotation.

OTHER SKILLS

- Working knowledge of PCR
- DNA extraction
- Gel electrophoresis

ACTIVITIES

- Participated in poster competition held in BICMAPE conference, Abbotabad for the presentation of ISREF, a tool for the prediction of isochores.
- Attended Symposium on "Latest Trends in Bioinformatics", 2009.
- Attended seminar about biodiversity held in 2008 in COMSATS.
- Attended a Conference on Commercialization of Biotechnology products conducted by NIBGE and NCB in Faisalabad held in June (19-20), 2009.

