

## OBJECTIVE

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To develop and implement bioinformatics tools, databases and methods for analysis of biological data (Genomic data) and biological systems.

## QUALIFICATION

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BS-Bioinformatics 2005-2009,

COMSATS Institute of IT,

CGPA 3.54/4.00

## PROFESSIONAL EXPERIENCE

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Research Associate in Bioinformatics 2009- 2010 CIIT, PAKISTAN.

## PUBLICATIONS:

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Malik Nadeem Akhtar, Syed Abbas Bukhari, Zeeshan Fazal, Raheel Qamar, Ilham Shahmuradov "POLYAR, a new computer program for the prediction of Poly (A) signals in Human Genome." BMC Genomics, 2010.

## AWARDS

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- Five Merit scholarships during BS-Bioinformatics
- Institute and campus Gold Medals
- First Prize in CIIT poster Competition
- Second prize in CIIT biological Model competition

## PROJECTS

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- PAS-based approach for Prediction of Transcription Termination Regions in Human Genome.
- Cleavage-based approach for Prediction of Transcription Termination Regions in Human Genome.
- A Program for Reading RefSeq Chromosomal Annotation files (7th Semester).
- Defining order of sequences on guide tree based upon evolutionary divergence by using Sankoff Algorithm in JAVA (5th Semester).

- Implementation of Boyer Moore, KMP, Needleman-Wunch and Smith-Waterman Algorithms in C++ (4th Semester).
- Computational analysis of HBV variants (4th Semester)

## BIOINFORMATICS SKILLS

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Basics of Computing:

Windows 2000/XP, Linux

Programming languages:

C, C++, Java, C#.NET, PERL, HTML, JSP and Servlet pages

Biological database search

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

Sequence analysis

Protein Sequence Analysis

- Primary Sequence Analysis
- Similarity Search – BLAST, PSI BLAST, PHI BLAST, FASTA
- Multiple Sequence Alignment – Clustal W, TCOFEE
- Phylogenetic Analysis – PHYLIP

Protein Structural Prediction

- Structural Classification databases – CATH
- Secondary structure prediction –GOR
- Tertiary Structure prediction –RASMOL
- Homology Modeling tools : Swiss Model
- Structure Visualization tools – RASMOL

Genome Analysis

- In depth knowledge on Genome databases –KEGG
- Gene prediction –ORF finder, Genscan
- Promoter Prediction
- Genome Annotation – Genome Scan
- Comparative Genomics tools – Blast 2 seq., Mummer, Genomic BLAST
- Microarray technology

- Functional Genomics

#### ACTIVITIES

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- 3-day "Train the Trainers Workshop on counseling Skills, May 2009"
- Symposium on "Latest Trends in Bioinformatics", 2009
- 2-Day Workshop on Science, Technology & Innovation Policy, 2009
- 1st CIIT Science Conference BICMAPE-2009
- Participation in PROCOM, all Pakistan Programming, Engineering and Business Competition, 2008 FAST Karachi.
- HEC 2nd National Workshop on "Techniques in Molecular Biology, Bioinformatics and Vaccine Production" from 27th to 30th May, 2008
- Discussion Participant, 1st Nobel Laureates' Meeting with Young Pakistan Scholars' 2006