MCS Resume 2

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EDUCATION

Master of Science in Computational Biology	Carnegie Mellon University, Pittsburgh, PA	3.81/4.0	May 2016
Bachelor of Technology in Biotechnology	India Institute of Technology, Madras, India	3.24/4.0	May 2014

Skills: C, C++, Python, Java, Perl, SQL, HTML, R, MATLAB, Cytoscape, CellNetAnalyser, COBRA

Relevant Coursework: Machine Learning, String Algorithms, Algorithms & Data Structures, Mathematical Modeling and Simulation, Computational Genomics, Phylogenetics, Biostatistics, Bioinformatics, Molecular Biology, Calculus II, Linear Algebra

PROFESSIONAL EXPERIENCE

Philips Research, NY, USA, Bioinformatics Summer Intern — May 2014 – Aug 2014

- Designed and implemented a statistical pipeline in R to leverage Breast Cancer Next-Generation Sequencing data by identifying and visualizing coding-long non coding networks with various disparate data overlay
- Conceptualized and developed an R module for a novel visualization of network featured heat maps in Cytoscape
- Submitted a conference paper at IEEE Genomic Signal Processing and Statistics (GENSIPS '13) (Accepted)
  Title: "Identifying RNAseq-based coding-noncoding co-expression interactions in breast cancer"
- Submitted abstract for San Antonio Breast Cancer Symposium (SABCS '13) (Under Review)
  Title: "RNA-seq reveals functional lncRNAs associated with estrogen-receptor status in breast cancer"

Monsanto Research Centre, Bangalore, India, Bioinformatics and Molecular Biology Intern — Summer 2012

- Developed a Perl module to obtain dynamic visualization of freely available static metabolic networks within a week
- Submitted three successful clones, optimized cell growth and reduced quality check time from 24hrs to 4 hrs

Centre for Cellular and Molecular Biology, Hyderabad, India, Mathematical Modeling Intern — Summer 2011

- Generated comprehensive MAPK pathway with 65% increase in nodes after referring 12 databases and 75 publications
- Modeled and simulated this pathway in CNA(MATLAB package), identified 2 oncogenes and 1 Tumor suppressor
- Received acknowledgment in Chowdhury et al, Structural and Logical Analysis of a Comprehensive Hedgehog Signaling Pathway to Identify Alternative Drug Targets for Glioma , Colon and Pancreatic Cancer, PLoS ONE (2013)

RESEARCH EXPERIENCE

Schwartz Laboratory, Lane Centre for Computational Biology, CMU, Research Assistant — Dec 2014 – Present

- Structured and implemented marker subset identification from microarray data prior to Principal Component Analysis and un-mixing to improve ability for phylogenetic inferences of tumor development
- Recognized subsets of genes (~30 out of ~41000) that gave a better separation in PCA and un-mixing of the subtypes

Bioinformatics Data integration Practicum, CMU, Technical Lead — Mar 2015 – May 2015

- Developed a cross-platform Java based tool for fast (Parallel processing) alignment-free identification of horizontal gene transfers between various strains of S.Pneumoniae

Dr. Gromiha, Protein Bioinformatics Laboratory, IITM, Undergraduate Thesis — Dec 2011 – May 2012

- Identified and proposed candidate Protein-RNA complexes that would show different properties in dynamic study evaluated based on analyses of variations in propensities, binding motifs and other sequence properties

International Genetically Engineered Machines, MIT, Boston Open-Source Project (TEAM: 10) — Jan 2011 – Nov 2011
Computational Biology and Sponsorship Lead

- Developed an online tool for site directed mutagenesis primer design
- Demonstrated a 30 % (maximum) increase in growth rate by reconstruction of pathway and flux balance analysis study
- Raised funds (USD 10,000) for experiments and International conferences

AWARDS AND PRESENTATIONS

- Awarded the Academic Achievement Fellowship, Carnegie Mellon University, Pittsburgh, PA — Aug 2014 – May 2015
- Awards and presentation for Project Title: "P.rex Photonivorous bacteria for Resolution and Expression"
  - Gold, Massachusetts Institute of Technology, Boston MA — Nov 2013
    International genetically Engineered machines World Championship (iGEM)
  - Asia's Best Safety Commendation and Asia's Best Biobrick (iGEM Asia Regionals) — Oct 2012
    iGEM Regionals, Hong Kong University of Science and Technology, Hong Kong