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October 21, 1987

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Personal Profile

Calm, enthusiastic, optimistic, interest to learn more about diverse things, practical learner and an active team member. Like to explore different places, spend time with friends, increase social network, learn from experience and read books on science.

Employment

- **Digital Enterprise Research Institute** IDA Business park, Galway, Ireland
Research Assistant Sep 2012 - Aug 2013
 - Working, team of two, on converting the The Cancer Genome Atlas (TCGA) cancer data in to RDF by genomic location and make it available as SPARQL endpoint. My task is to arrange different data types available in TCGA tumor data by genomic location so that the query in the SPARQL would give all data type results of a patient/patients according to genomic location.

Education

- **Chalmers University of Technology** Göteborg, Sweden
M.Sc. Bioinformatics and Systems Biology Sep 2009 - June 2012
 - Studied different courses involving cell biology basics, computer science algorithms, mathematical models and information theory. Also attended classes of Artificial Neural Networks and Error Control Coding out of interest to learn more.
- **Dhirubhai Ambhani Institute of I.C.T** Gandhinagar, Gujarat, India
B.Tech. Information and Communication Technology(I.C.T) Aug 2005 - July 2009
 - Undergraduate Thesis: Metrics on protein structure
 - Gained knowledge on Computer Science, Communications and Electronics till first two years of Bachelors. Chose Computer Science and its applications in Biology from third year along with some communication and humanity courses.

Research Publications

- Guo, Jing, Mårten Hammar, Lisa Öberg, Shanmukha S. Padmanabhuni, Marcus Bjärelund, and Daniel Dalevi. “Combining Evidence of Preferential Gene-Tissue Relationships from Multiple Sources.” PloS one 8, no. 8 (2013): e70568; have contributed to the Bayesian factor method in the paper and also co-author of the paper.
- “TopFed: TCGA Tailored Federated Query Processing and Linking to LOD”, BMC Bioinformatics Journal, submitted on 5 April 2013, publication process ongoing; have contributed in collecting the annotations for every data type, refining the TCGA data to reduce the size and devising the queries and also co-author of the paper.

- “Comparing Inferred Preferential Gene-Tissue Relationships in Human and Other Species”, Department of Mathematical Sciences, Chalmers University of Technology, 2012.

Academic Projects

- **Comparing Inferred Preferential Gene-Tissue Relationships in Human and Other Species**
Master Thesis, Supervisor: Daniel Dalevi, AstraZeneca, Mölndal, Sweden Sep 2011 - Feb 2012
 - Worked on the Bayesian factor method to detect tissue-specific genes across the Human, Mouse and Rat datasets containing replicated samples. Modified the Bayesian factor method to detect tissue-selective genes that are selectively expressed in two, three or four tissues and trained it using training and test data collected. The performance of the Bayesian factor method was quite satisfactory and can be a powerful tool to detect the tissue-selective genes. The project was done in R.
- **Tracking Cell Boundary in Yeast Cells** March 2010 - May 2010
Examiner: Prof. Mats Rudemo, Chalmers University Group size: 4
 - Worked on images of Yeast cells to build a model which can differentiate normal and mutated yeast cells. The model was semi automatic, in sense that it needs human support in the middle of the process, trained on dataset of 17 images of different yeast cells. The parameter, average length of the yeast cell, of the model was extracted from the 17 images. Model was able to differentiate yeast cells with an accuracy of 65.645%. The model was implemented in MATLAB.
- **Yeast Strains Competing model** Nov 2009 - Dec 2009
Examiner: Prof. Olle Nerman, Chalmers University Group size: 6
 - Worked on the Chapman Richard model explaining relation between growth of yeast cells in a strain to amount of food supply. Built a model to predict the competition among strains when food of one strain is supplied to all strains. The model was tested for two, three and five strains and the food is the only factor. The model was implemented in MATLAB
- **Finding Triplet Repeats in Human Genome** Nov 2009 - Dec 2009
Examiner: Prof. Tore Samuelsson, Göteborg University Group size: 3
 - Studied on Short Tandem Repeats (STR) and diseases associated with 3-STR. Wrote perl program to find 3-STR in human genome. Due to time limit only X-chromosome in the human genome was analyzed using perl program and different repeats were observed. The length of the repeats vary in normal and disease condition. The X-chromosome analyzed was a natural/wild type so didn't find any abnormal repeat lengths but gained some knowledge on perl and also on diseases associated with triplets.
- **Metrics on Protein Structure** Jan 2008 - July 2009
Bachelor thesis, Examiner: Prof. Manish K. Gupta, DA-IICT, India Group size: 1
 - Learned different protein structure similarity algorithms. Concentrated mainly on the structural alignment free comparison algorithms of protein structures which are faster than structural aligned algorithms. Tested three algorithms Secondary Structure Matching (SSM), Contact Metric (CM) and TOPS on selected dataset of proteins from CATH database.
- **Finding Noncoding RNA sequence in C. Elegans** May 2008 - July 2008
Research Internship, Examiner: Prof. Manish K. Gupta, DA-IICT, India Group size: 1
 - Worked on the build of mathematical model for the Noncoding RNA sequence in the C. Elegans species. The model includes evolutionary HMM to align the miRNA sequences and with phylogenetic tree as its input. The combination of phylogenetic tree and evolutionary HMM was

used for identifying regions of interest in multiple aligned sequences and same concept was used for finding noncoding RNA. The phylogenetic tree is built from the miRNA sequence data and sent as input to the evolutionary HMM. The project was implemented using C language.

Achievements

- Project on non coding RNA in Summer 2008 got selected for poster presentation in 3rd FEBS Advanced lecture Course on Systems Biology in Alpbach, Austria.
- Secured 2nd position in TechMarket (Technical Paper Presentation) at Synapse 2008 - the technological festival of DA-IICT, India.
- Secured 3193 rank out of 200,000 in All India Engineering Entrance Exam (AIEEE) in May 2005
- Secured 2nd position in regional science fair quiz competition in January 2003 on Maths, Physics, Chemistry and Biology.
- Secured 1st position in regional science fair competition in December 2001 on Ozone depletion and global warming.

Skills

- Programming and Markup Languages
 - C,C++, perl, Java, MySQL, LaTeX
 - HTML, PHP, JSP
- Mathematical Tools
 - R, MATLAB, Wolfram Mathematica
- Software and Operating Systems
 - Microsoft Office Tools, PHYLIP, Adobe photoshop, Adobe flash
 - Windows, Unix/Linux (Ubuntu, Fedora)
- Languages
 - Telugu - Mother Tongue
 - English - speaking and writing excellent
 - Swedish - Beginner(currently learning) and have done beginner's course in Swedish as Foreign Language in Göteborg University during March 2011 to May 2011