Ashish Baghudana

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EDUCATION

MSc. (Hons.) Biological Sciences
B.E. (Hons.) Computer Science
BITS-Pilani   May 2016
GPA: 8.77 / 10.00

CBSE Standard 12th ('O' Levels Equivalent): 94.2%   May 2011
CBSE Standard 10th ('A' Levels Equivalent): 93.4%   May 2009

PUBLICATIONS

Ashish Baghudana and Juan Miguel Cejuela. "relna: corpus of Relations of Transcription Factors to Genes or Proteins." In Biomedical Linked Annotation Hackathon 2. DNA Databank of Japan, Mishima.

Divya Ramesh Bandekar, **Ashish Baghudana**, Om Prakash Chouhan, and Sumit Biswas. "Expression, Purification And Characterization Of A GGEEF Domain Protein From Vibrio cholerae " (submitted)

Juan Miguel Cejuela, Shrikant Vinchurkar, Tatyana Goldberg, **Ashish Baghudana**, Aleksander Bojchevski, Carsten Uhlig, Andr Ofner, Pandu Raharja-Liu, Lars Juhl Jensen, and Burkhard Rost. "Biomedical Text Mining for Relation Extraction." (in writing)

INTERNSHIPS & PROJECTS

Visiting Student for Master's Thesis   Jun - Dec 2015
Rostlab, Technical University, Munich. "Biomedical Text Mining for Gene or Gene Product (GGP) and Transcription Factor (TF) relationships"
- Developed corpora of 140 documents, semi-automatically annotated for named entities and relationships between GGPs and TFs.
- Contributed to development of *nalaf* - a framework for end-to-end named entity recognition and relation extraction.
- Achieved an F-measure of 69.3% for relation extraction using *nalaf* framework.

Lab Member   Jan - May 2015
Dr. Sumit Biswas' Group, BITS-Pilani Goa Campus. "Classification of DNA and RNA-binding proteins based on Interface Properties"
- Developed a dataset for DNA-binding and RNA-binding proteins based on their interface properties
- Trained an Artificial Neural Network classifier to differentiate between the two classes of proteins
- Achieved a Precision of 84.2%, Recall of 84.3% and F-Measure of 84.2%

Lab Member   Jan - Dec 2014
Dr. Sumit Biswas' Group, BITS-Pilani Goa Campus. "Studying the Evolutionary Systematics of GGDEF Proteins"
- Traced the evolutionary history of GGDEF proteins using Genetic Algorithms
- Modeled the structure of a *Vibrio cholerae* protein and compared it with other proteins of the same family

Indian Academy of Sciences Summer Fellow   May - Jul 2014
Dr. Mukund Thattai's Group, National Center for Biological Sciences, Bangalore. "Boolean Logic Cell Model of Vesicular Trafficking"
- Developed a scalable cell model using monotone Boolean functions to study the dynamics of vesicular trafficking

- Implemented a Reduced Ordered Binary Decision Diagram (ROBDD) data structure and associated algorithms for efficient computation of satisfiability problems

Lab Member   Jul - Dec 2013

Dr. Veeky Baths' Group, BITS-Pilani Goa Campus. "Application of Graph Theory and Centrality Measures to the *Mycobacterium tuberculosis* PPI Network"
- Implemented centrality measures and PageRank algorithm towards the identification of potential drug targets in *Mycobacterium tuberculosis*

Research Intern   May - Jul 2013

Dr. V. Umashankar's Group, Medical Research Foundation, Chennai. "Structure Based Prediction of Interacting Partners of WDR13"
- Developed a 3D structure of the protein WDR13 and predicted interacting partners using docking studies, heat maps and electrochemical maps.

COURSE PROJECTS	*Data Mining*	Oct - Nov 2014

Dr. Aruna Gowda, BITS-Pilani K. K. Birla Goa Campus "Hadoop Implementation of Classification and Clustering Algorithms"
- Implemented Naive Bayes Classifier and K-Means Clustering algorithms on a distributed Hadoop architecture

Computer Architecture   Sep - Nov 2014

Dr. K. R. Biju, BITS-Pilani K. K. Birla Goa Campus "MIPS-based Cache Memory"
- Designed and implemented a 4-way set associative cache memory with Way Prediction and FIFO Replacement policy on Verilog to be interfaced with a MIPS processor

Microprocessors and Interfacing   Mar - Apr 2014

Dr. K. R. Anupama, BITS-Pilani K. K. Birla Goa Campus "Fire Alarm System using Smoke Sensors"
- Designed and implemented an efficient fire alarm system using an 80x86 processor interfaced with a smoke sensor, analog-digital converter and stepper motors.

TEACHING ASSISTANT	Microprocessors and Interfacing	Jan - May 2015
	General Biology	Aug - Dec 2014

COMPUTER SKILLS	Python, Java, C, SQL, Hadoop, Verilog, HTML, CSS, Bootstrap, AngularJS

AWARDS AND DISTINCTIONS	Indian Academy of Sciences (IAS) Fellowship	May - Jul 2014
	Topped Biology Class for three consecutive years (Class Size: 33)	2012 - 2014
	INSPIRE Scholarship (INR 80,000 per annum): Awarded to the top 1% students in Standard 12th across the country	2011 - 2016
	CBSE Top 0.1% Certificate	May 2011

EXTRA CURRICULAR ACTIVITIES

Curator, TEDxBITSGoa   Mar 2013 - Feb 2014
- Led a team of 30 students to organize an independent TEDx conference across Speaker Research, Sponsorship, Publicity, Content Development and Logistics
- Curated 11 speakers from all over the country to fit TED guidelines

5th Grade, Electronic Keyboard, Trinity College of Music   Nov 2010
- Cleared the 5th grade music examination conducted by Trinity School of Music