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

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

INTERNSHIPS & PROJECTS

Visiting Research Intern — Jun - Dec 2015
Rostlab, Technical University, Munich. "Biomedical Text Mining for Relation Extraction"

- Developed a corpora of 140 journal abstracts, manually annotated entities and relations between the entities. The corpora is available in the public domain and will be published as part of the BLAH2 Hackathon.
- Develop an end-to-end entity recognition and relation extraction framework (called nala).
- Contributed specifically to feature extraction and selection for relation extraction.
- Built SVM-based models for classification of relations reaching an F-measure of 65.3% on my corpora.

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

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.

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.

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