Ashish Baghudana

http://ashishbaghudana.github.io
ashish.baghudana@tum.de
+49 176 6704 0351

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)

Divya Ramesh Bandekar, Om Prakash Chauhan, **Ashish Baghudana**, and Sumit Biswas. "Effect of Site-Directed Mutagenesis at the GGEEF Domain of the Biofilm Forming GGEEF Protein from Vibrio cholerae." (submitted)

INTERNSHIPS & PROJECTS

Visiting Student for Master's Thesis — Jun - Dec 2015
Rostlab, Technical University, Munich. "Biomedical Text Mining for Protein - Nucleic Acid Relationships"

- Developing a dataset for efficient identification of relationships between proteins and nucleic acids
- Improving current algorithms on Named Entity Recognition and Relationship Extraction for biomedical purposes.

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