

# Ashish Baghudana

<http://ashishb.me>

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**EDUCATION** *B.E. (Hons.)* Computer Science  
*MSc. (Hons.)* Biological Sciences  
BITS-Pilani May 2016  
CGPA: 8.88 / 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.

Chouhan, Om Prakash, Divya Bandekar, Mousumi Hazra, **Ashish Baghudana**, Saugata Hazra, and Sumit Biswas. "Effect of site-directed mutagenesis at the GGEEF domain of the biofilm forming GGEEF protein from *Vibrio cholerae*." *AMB Express* 6, no. 1 (2016): 1-9.

**INTERNSHIPS & PROJECTS** *DevOps Intern* Jan - June 2016  
PayPal IDC, Chennai. "Improve Developer Experience through Containerization of Applications"

- Containerized PayPal Node.JS and Java applications using Docker
- Automated deployment of multi-container instances via docker-compose
- Deployed a REST service for promotion of manifests and images from development Docker Trusted Registry (DTR) to production DTR

*Bachelor's Thesis* Jun - Dec 2015  
Rostlab, Technical University, Munich. "Biomedical Text Mining for Gene or Gene Product (GGP) and Transcription Factor (TF) relationships"

- Developed *relna*, a corpus of 150 documents, semi-automatically annotated for named entities and relationships between GGPs and TFs, available on PubAnnotation
- Contributed to development of *nalaf* - a framework for end-to-end named entity recognition and relation extraction available at <https://github.com/Rostlab/relna>
- 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%

*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

	<i>Lab Member</i>	Jul - Dec 2013
	Dr. Veeky Baths' Group, BITS-Pilani Goa Campus. "Application of Graph Theory and Centrality Measures to the <i>Mycobacterium tuberculosis</i> PPI Network"	
	<ul style="list-style-type: none"> <li>Implemented centrality measures and PageRank algorithm towards the identification of potential drug targets in <i>Mycobacterium tuberculosis</i></li> </ul>	
	<i>Research Intern</i>	May - Jul 2013
	Dr. V. Umashankar's Group, Medical Research Foundation, Chennai. "Structure Based Prediction of Interacting Partners of WDR13"	
	<ul style="list-style-type: none"> <li>Developed a 3D structure of the protein WDR13 and predicted interacting partners using docking studies, heat maps and electrochemical maps.</li> </ul>	
<b>COURSE PROJECTS</b>	<i>Data Mining</i>	Oct - Nov 2014
	Dr. Aruna Gowda, BITS-Pilani K. K. Birla Goa Campus "Hadoop Implementation of Classification and Clustering Algorithms"	
	<ul style="list-style-type: none"> <li>Implemented Naive Bayes Classifier and K-Means Clustering algorithms on a distributed Hadoop architecture</li> </ul>	
	<i>Computer Architecture</i>	Sep - Nov 2014
	Dr. K. R. Biju, BITS-Pilani K. K. Birla Goa Campus "MIPS-based Cache Memory"	
	<ul style="list-style-type: none"> <li>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</li> </ul>	
	<i>Microprocessors and Interfacing</i>	Mar - Apr 2014
	Dr. K. R. Anupama, BITS-Pilani K. K. Birla Goa Campus "Fire Alarm System using Smoke Sensors"	
	<ul style="list-style-type: none"> <li>Designed and implemented an efficient fire alarm system using an 80x86 processor interfaced with a smoke sensor, analog-digital converter and stepper motors.</li> </ul>	
<b>TEACHING ASSISTANT</b>	Microprocessors and Interfacing	Jan - May 2015
	General Biology	Aug - Dec 2014
<b>COMPUTER SKILLS</b>	<b>Programming Languages:</b> Python, Java, C, Scala <b>Software Development:</b> Docker PDLC, Continuous integration and deployment <b>Web Development</b> Node.JS, JavaScript, AngularJS, CSS Frameworks	
<b>AWARDS AND DISTINCTIONS</b>	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
<b>EXTRA CURRICULAR ACTIVITIES</b>	<i>Curator</i> , TEDxBITSGoa	Mar 2013 - Feb 2014
	<ul style="list-style-type: none"> <li>Led a team of 30 students to organize an independent TEDx conference across Speaker Research, Sponsorship, Publicity, Content Development and Logistics</li> <li>Curated 11 speakers from all over the country to fit TED guidelines</li> </ul>	
	<i>5th Grade</i> , Electronic Keyboard, Trinity College of Music	Nov 2010
	<ul style="list-style-type: none"> <li>Cleared the 5th grade music examination conducted by Trinity School of Music</li> </ul>	