

## EDUCATION

Indian Institute of Technology Kharagpur, India

B.Tech & M.Tech, *Biotechnology*

GPA: 8.65 (out of 10)

Apr 2012 - May 2017

## RESEARCH EXPERIENCE

RESEARCH INTERN May 2016–Jul 2016	<i>Institute for Systems Biology, Seattle</i>	Dr. Gustavo Glusman, Leroy Hood's Group.
	<ul style="list-style-type: none"><li>– Characterized <i>autosomal</i> sex-specific biases between male and female cohorts of 1000 whole-genome sequences across different technologies.</li><li>– Analyzed coverage profile, raw reads quality data, prepared controls, performed statistical analysis and developed visualizations.</li></ul>	
B.TECH THESIS Aug 2015–present	<i>Indian Institute of Technology Kharagpur</i>	Prof. Amit Kumar Das
	<ul style="list-style-type: none"><li>– Investigating the role of structural (e.g. sequences, secondary structures) and functional patterns in knotted proteins and how they may influence the knotting mechanism.(Talk)</li></ul>	
RESEARCH INTERN May 2015–Jul 2015	<i>Indian Institute of Science, Bangalore</i>	Prof. Sandya V. Visweswariah
	<ul style="list-style-type: none"><li>– Extracted, purified and labeled (fluorescence) the wild type and mutant proteins obtained from expression vectors.(Report)</li><li>– Assessed lytic activity and qualitatively demonstrated a lipid phase dependent kinetic behavior of Cytolysin A; one of the foremost such study of the protein.</li></ul>	

## PROGRAMMING EXPERIENCE

DEVELOPER May 2016–Aug 2016	<i>OpenSNP, Open Bioinformatics Foundation</i>	Summer of Code, Google Inc.
	<ul style="list-style-type: none"><li>– Worked on <i>Linking Phenotypes to SNPs in OpenSNP.org</i> portal based on research literature text-mining.</li><li>– Implemented database models and backend changes to integrate the SNP information with the Phenotypes.</li><li>– Working on improving the frontend and generating visualizations to convey the linkage information.</li></ul>	
DEVELOPER May 2015–Jan 2016	<i>Wikipedia Human Gender Indicators</i>	Wikimedia Foundation Inc.
	<ul style="list-style-type: none"><li>– Analyzed raw Wikidata information to quantify gender biases in Wikipedia, performed statistical analysis, and developed the website for showcasing results.</li><li>– Assisted in research and community efforts by writing research paper, blog posts, and reviewing reports.</li></ul>	

CONTRIBUTOR Jun 2014–present	<i>Sequenceserver, Wurm Lab</i> <div style="text-align: right;">Dr. Yannick Wurm, QMUL, London</div> <ul style="list-style-type: none"> <li>– Implemented BLAST+ output parser module, backend data-module in <i>Ruby</i>, and designed graphical overview scheme for BLAST hit information using <i>D3.js</i>.</li> <li>– Contributed more than <i>115 commits</i> over an year and co-authored the research paper.</li> </ul>
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## PUBLICATIONS

- Priyam A, Woodcroft BJ, *Rai V*, Munagala A, Moghul I, Ter F, Gibbins MA, Moon H, Leonard G, Rumpf W & Wurm Y. 2015. "Sequenceserver: a modern graphical user interface for custom BLAST databases." biorxiv doi: 10.1101/033142. <http://sequenceserver.com>
- Klein M, Gupta H, *Rai V*, Konieczny P, Zhu H. 2016. "Monitoring the Gender Gap with Wikidata Human Gender Indicators." OpenSym.

## SKILLS

AREAS	Bioinformatics, Systems biology, Computational modeling, Data visualization
LANGUAGES	Python (+scipy), Ruby, SQL, JavaScript, R, MATLAB, BASH, C
TOOLS	GNU/Linux (*nix), Vim, Git, L <sup>A</sup> T <sub>E</sub> X

## CONFERENCES AND SEMINARS

ISMB Jul 2016	Received Simons Foundation Fellowship to attend Intelligent Systems for Molecular Biology 2016 conference in Orlando, Florida.
WMCB Jan 2015	Two day workshop and lectures series on trends in biological networks, computational protein design, and single cell data analysis.
ICTP-ICTS QSB Dec 2015	Attended Winter School on Quantitative Systems Biology 2015 organized at International Centre for Theoretical Science, Bangalore in association with ICTP, Italy.
SHORT TERM COURSE Mar 2014	Attended a set of seminars on next-gen sequencing, interaction networks and computational tools as a part of Short Term Course on Computational Biology organized at IIT Kharagpur.

## AWARDS AND ACHIEVEMENTS

2016	Awarded GATE Scholarship by University Grants Commission, Ministry of Human Resource Development, India to pursue master's in 2016.
2016	Awarded felicitation for winning first place and third place in ISCB Wikidata and Wikipedia article writing competition 2016 at ISMB, Orlando, FL.

2012-15      Awarded tuition fee waiver (merit-cum-mean scholarship) to pursue bachelor's education at IIT Kharagpur.

2010      Awarded *Ram Avatar Gupta Pratibha Puraskar* for securing highest marks in Hindi language across all high schools in state.

#### EXTRA-CURRICULAR ACTIVITIES

iGEM      Wet lab team member and content writer for the iGEM IIT Kharagpur team.      2015

HACKERRANK      Author of language tutorial problems for Ruby, Python & Linux section.      2015

EN WIKIPEDIA      Experienced editor with over 30 english articles and 1600+ edits.      2012-2015

METAKGP      Contributor and administrator of the first comprehensive campus Wiki.      2015

NSS      Volunteered for teaching and community service for two years in nearby villages.      2012-2014