

## EDUCATION

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|------|---|--------------|
| 2022 | <b>UNIVERSITY OF MICHIGAN, ANN ARBOR</b><br>Ph.D. in <i>Bioinformatics</i><br>M.S. in <i>Statistics</i> | GPA: 3.71/4  |
| 2017 | <b>INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR</b><br>Dual Degree (B.Tech & M.Tech), <i>Biotechnology</i> | GPA: 8.62/10 |

## RESEARCH EXPERIENCE

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| 2017-now  | <b>UNIVERSITY OF MICHIGAN</b> , Ph.D. Student<br>Mentor: Stephen CJ Parker, Ph.D.<br><ul style="list-style-type: none"> <li>– Integrative analysis of chromatin accessibility profiles across skeletal, pancreatic, and adipose tissues to assess the functional effects of non-coding mutations in type-II diabetes (T2D) disease susceptibility.</li> </ul>   | Ann Arbor, USA   |
| 2016-2017 | <b>INDIAN INSTITUTE OF TECHNOLOGY, KHARAGPUR</b> , Senior Thesis<br>Mentor: Amit K. Das, Ph.D.<br><ul style="list-style-type: none"> <li>– Characterized the role of structural and functional patterns in the origin of knotted proteins and how they may influence the knotting mechanism. <a href="#">(Talk)</a></li> </ul>  | Kharagpur, India |
| 2016      | <b>INSTITUTE FOR SYSTEMS BIOLOGY</b> , Summer Intern<br>Mentor: Gustavo Glusman, Ph.D.<br><ul style="list-style-type: none"> <li>– Analyzed systematic autosomal sex-specific biases in sequence coverage profiles in more than 2000 individual whole-genomes from Illumina and Complete Genomics.</li> <li>– Discovered that biases were technical artefacts of read mapping process due to segmental duplication between autosomes and sex-chromosomes.</li> </ul>  | Seattle, USA     |
| 2015      | <b>INDIAN INSTITUTE OF SCIENCE</b> , B.E.S.T Fellow<br>Mentor: Sandhya S. Visweswariah, Ph.D.<br><ul style="list-style-type: none"> <li>– Extracted, purified, and labeled the wild type and mutant (Q56C) Cytolysin-A, a bacterial pore-forming toxin, obtained from expression vectors in BL21(DE3) host strain.</li> <li>– Demonstrated a lipid phase and C-terminal domain dependent kinetic behavior using ClyAQ56C mutant protein in calcein leakage assays with synthetic lipid vesicles and dynamic light scattering. <a href="#">(Report)</a></li> </ul> | Bangalore, India |
| 2015-2016 | <b>WIKIMEDIA</b> — Individual Engagement Grant<br>Manager: Maximilien Klein<br><ul style="list-style-type: none"> <li>– Quantified gender bias in Wikipedia corpus as a team member of \$22,500 grant using Wikidata through statistical analysis, developed website, and assisted in research, and paper writing, editing and review.</li> </ul>   |                  |

## DEVELOPMENT EXPERIENCE

- 2016            **GOOGLE SUMMER OF CODE**, OpenSNP — Student Developer  
Mentors: Bastian Greshake, Philip Bayer  
Project: Linking Phenotypes to Genotypes in OpenSNP ([opensnp.org](http://opensnp.org))
- 2015-2016      **SEQUENCESERVER** — Wurm Lab, Queen Mary University of London, UK  
Mentors: Anurag Priyam, Yannick Wurm, Ph.D.  
Project: Sequenceserver: a modern graphical user interface for custom BLAST databases

## PUBLICATIONS

1. O'Neill, K., Rai, V., Kilpatrick, A. M. (2017). The International Society for Computational Biology and WikiProject Computational Biology: celebrating 10 years of collaboration towards open access. *Bioinformatics*, 33(15), 2429.
2. Klein, M., Gupta, H., Rai V., Konieczny, P., Zhu, H. (2016, August). Monitoring the Gender Gap with Wikidata Human Gender Indicators. In *Proceedings of the 12th International Symposium on Open Collaboration* (p. 16). ACM. [whgi.wmflabs.org](http://whgi.wmflabs.org)
3. Priyam, A., Woodcroft, B. J., Rai V., ... Wurm, Y. (2015). Sequenceserver: a modern graphical user interface for custom BLAST databases. *Biorxiv*, 033142. [sequenceserver.com](http://sequenceserver.com)

## SKILLS

<i>interests</i>	Statistical Analysis, Computational Genetics & Genomics, Data Science
<i>languages</i>	Python, R, Shell Scripting (BASH), Ruby, SQL, $\LaTeX$
<i>tools</i>	Snakemake, UNIX CLI, Conda, Slurm, Singularity

## HONORS | AWARDS

2016	Simons Foundation Travel Fellowship — <a href="#">ISMB 2016</a> , Orlando, Florida
2016	First place, Wikidata Competition — International Society for Computational Biology
2016	Third place, Wikipedia Competition — International Society for Computational Biology
2016	GATE Scholarship — University Grants Commission, MHRD, India
2012-2016	Awarded tuition waiver through Merit-cum-Means Scholarship for 4 years — IIT Kharagpur
2012-2016	Sanmarg Relief Scholarship — Sanmarg Pvt. Ltd. & Harsh and Payal Foundation
2010	Ram Avatar Pratibha Puraskar (excellence in Hindi language) — Sanmarg Pvt. Ltd.

## CONFERENCES | WORKSHOPS

2017	5 <sup>th</sup> Simons-NCBS Monsoon School, Physics of Life 2017 — NCBS, Bangalore
2016	<a href="#">Intelligent Systems for Molecular Biology (ISMB)</a> , Orlando, Florida
2016	Workshop on Mathematical and Computational Biology ( <a href="#">WMCB 2016</a> ) — <a href="#">IISER, Kolkata</a>
2015	Winter school on <a href="#">Quantitative Systems Biology (QSB) 2015</a> — ICTS, Bangalore
2014	<a href="#">Short Term Course on Computational Systems Biology</a> 2014 — IIT Kharagpur

## VOLUNTEER

2018	Juror (India), Wiki Science Competition 2018 ( <a href="http://wikisciencecompetition.org">wikisciencecompetition.org</a> ) — Wikimedia
2018	Contributor, Women in Science 2018 Editathon — AWIS, University of Michigan
2012-2018	Editor (40+ articles and 1800+ edits) — en Wikipedia
2016	Contributor, <a href="#">Wikipedia Editathon</a> — ISMB 2016
2016	Python and Git Assistant, <a href="#">Software Carpentry Workshop 2016</a> — University of Washington
2012-2014	National Service Scheme — IIT Kharagpur

## SERVICES

2018	Tech Reviewer, Python Hacks for Everyone — <a href="#">Packt Publishing</a>
2015	Problem Author, Ruby and Python Challenges — <a href="#">HackerRank</a>

## CLUBS

2016	Co-maintainer, MetaKGP ( <a href="http://metakgp.github.io">metakgp.github.io</a> ) — IIT Kharagpur
2015	Core Team Member, iGEM Sythetic Biology Team — <a href="#">iGEM IIT Kharagpur</a>
2015-2016	Captain, Opensoft — LBS Hall, IIT Kharagpur
2014	Core Team Member, Google Students Club — IIT Kharagpur
2013	English Team Member, Technology Literary Society (TLS) — IIT Kharagpur