

VIVEK RAI

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EDUCATION

Indian Institute of Technology Kharagpur, India
B.Tech & M.Tech, *Biotechnology*
GPA: 8.65 (out of 10), Class rank: 1 of 40.

2012-2017

DEVELOPMENT EXPERIENCE¹

WIGI, WIKIMEDIA
May 2015–present

A Wikimedia project to quantify gender biases in Wikipedia and create quantitative indicators.

- Analyzed raw Wikidata information to visualize gender information across categories and perform statistical analyses; also developed the website for showcasing results.
- Assisted in research and community efforts by writing research paper, blog posts, and reviewing reports.

SEQUENCESERVER
Jun 2014–present

- Implemented BLAST+ output parser module, backend data-module in **Ruby** and designed graphical overview scheme for BLAST hit information using **D3.js**.
- Contributed more than **110 commits** over an year and co-authored the research paper.

AFRA
Dec 2014–Jan 2014

- Improved user interface of the gene annotation platform for better visual feedback
- Handled annotation data, introduced multiple sessions sync, and streamlined annotation editing features in backend.

RESEARCH EXPERIENCE

B.TECH THESIS
IIT KHARAGPUR
Aug 2015–present

Bioinformatic analysis of protein knots and their knotting mechanism.

- Investigating the role of structural (e.g. sequences, secondary structures) and functional patterns in knotted proteins and how they may influence the knotting mechanism.(Review)

RESEARCH INTERN
MRDG, IISc
May 2015–Jul 2015

Fluorescent labeling and lipid phase dependence study of *E.coli* ClyA toxin.(Report)

- Assessed toxin activity using fluorescence and qualitatively demonstrated a lipid phase dependent kinetic behavior of Cytolysin A; one of the foremost such study of the toxin.

SKILLS

AREAS Bioinformatics, Systems biology, Computational modeling, Data visualization
LANGUAGES Python (+scipy), SQL, Ruby, JavaScript, C, R, MATLAB, BASH
TOOLS GNU/Linux (*nix), Vim, Git, L^AT_EX

¹Exhaustive list at GitHub and an online version of resume.