# Adnan Raza

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GitHub: Woosflex , Website: woosflex.github.io

## EDUCATION

**Jamia Millia Islamia,** Delhi, India                                                  2024-Present

  **M.Sc. Bioinformatics**

**Sharda University,** Greater Noida, India

  **B.Sc. (Hons.) Microbiology,** Graduated 8.75/10 CGPA                   2020-2023

  Awards: *First division with honours*

**R.S.B.V. Gandhi Nagar**, Delhi, India

  **Senior School (Grade 12th),** Passed 73.4%                                          2019

**St. Andrews Scots School**, Delhi, India

  **High School (Grade 10th)**, Passed 9.4/10 CGPA                                   2017

## RESEARCH EXPERIENCE

**Sharda University, Department of Life Sciences**

*Undergraduate Research Thesis with Prof. Vinod Joshi*                    Nov. 2022 –

April. 2023

Comparison of Anti-HCV titre and p53 protein among HCV patients

- Extracted whole RNA from blood samples of HCV positive patients.
- Quantified HCV load and determined genotype of virus with RT-PCR.
- Identified impact of infection on p53 expression using PCR.
- Examined the mutation in p53 mRNA by differentiating using Gel Electrophoresis.

**Sharda University, Department of Life Sciences**

*Summer Project with Dr. Annette Angel*

Socio-Economic and COVID-19 transmission intervention: Impact of lockdown measures in India

# PROJECTS

## AutophiGen: Automate Phylogenetic Analysis

- Developed bioinformatics tool made in Python to automate phylogenetic analysis workflow as a personal project.
- Implemented libraries such as BioPython, ete3 and APIs of EMBL to perform BLAST, Multi-Sequence Alignment using MUSCLE and create phylogenetic tree using Neighbour-Joining Algorithm.
- Currently working on deploying the tool as a web-app for easy access and GUI-interface.
- Link to the project's GitHub repo: AutophiGen

## GCVisualyst: A R package to analyse DNA sequences

- Implements threshold-based detection of CpG islands using GC content and observed-to-expected CpG ratios.
- Generates customizable visualizations, including line plots and shaded regions to highlight CpG-rich areas.
- Supports input through FASTA files or manual sequence entry, with automated sequence validation.
- Utilized R packages like **dplyr**, **ggplot2**, **purrr**, and **stringr** for data manipulation, calculations, and visualization.
- Designed for modularity and scalability, enabling easy integration into Shiny apps for web-based analysis.
- Github Repository: GCVisualyst

# SKILLS

## Technical Skills

| | | | |
|---|---|---|---|
| Python | C | LaTeX | R |
| Bash, zsh | | | |

## Laboratory Skills

| | | | |
|---|---|---|---|
| PCR | Gel Electrophoresis | ELISA | Culturing Bacteria |

| | |
|---|---|
| - GWAS | - Shotgun Sequencing |

## LEADERSHIP  EXPERIENCE

**Sharda University, Department of Life Sciences**

*Organized preparation of Scientific Models during Accreditation Council's visit*

- Streamlined the production of models by students.
- Oversaw financial, management and administrative roles

**Sharda University, Department of Life Sciences**

*Elected for the role of Class Representative for consecutive 6 semesters*

- Distribution of study materials and maintenance of cloud storage of class materials
- Designed workflow for easy access to information, form submissions and discussions.

## PUBLICATIONS

**Raza, A.**, Khandelwal, K., Pandit, S., Singh, M., Kumar, S., Rustagi, S., Ranjan, N., Verma, R., Priya, K., & Prasad, R. (2024). Exploring the potential of metallic and metal oxide nanoparticles for reinforced disease management in agricultural systems: A comprehensive review. *Environmental Nanotechnology Monitoring & Management, 22*, 100998. https://doi.org/10.1016/j.enmm.2024.100998

## COURSES & WORKSHOPS

| | |
|---|---|
| CS50x: Introduction to Computer Science by **Harvard University** | Ongoing |
| CS50r: Introduction to programming in R by **Harvard University** | Sept. 2024 |
| International Workshop on Genome Informatics by **DeCode Life** | 6 Jan. – 4 Feb., 2024 |
| CS50p: Introduction to Programming with Python by **Harvard University** | Oct. 2023 |
| Infection and Immunity by **Amity University Online** | July, 2023 |
| MATLAB OnRamp by **MathWorks Training Services** | Oct., 2022 |
| Content Writing Workshop by **FRONTROW** | March, 2022 |
| Introduction to Data Analysis using Excel by **Rice University** | Dec., 2021 |

## PROFESSIONAL AFFILIATIONS

Member of **Global Initiative Academic Network (GIAN)** 2022 - Present

**IIT Kharagpur, India**

## CONFERENCES AND WEBINARS

**Attended:**

**Droplet Digital PCR World 2023** by Bio-Rad June 2023

**Interdisciplinary  Research on Cancer Biology** by UPES University Sep. 2022

**Understanding COVID-19 to Prepare for the Next Pandemic** by Nature

Conferences

**E-symposium on Cancer Epigenetics** by Jaipur National University Sep. 2021