

## SUMMARY

I am pre-final year student at BITS Pilani. I am interested in Deep Learning and Biocomputation. I spend my time working on a selection of projects to improve my current skill-set. I have developed a passion for science and I am interested in pursuing independent research as an undergraduate.

## EDUCATION

**Dual Degree: Master of Science - Biological Sciences, Bachelor of Engineering - Computer Science**

**Aug 2018 — May 2023**

Birla Institute of Technology and Science Pilani, India

**CGPA: 8.98/10**

**INSPIRE-SHE Scholar:** Secured the coveted scholarship by The Department of Science and Technology (Govt. of India) for finishing in the **top 1%** in All India Senior School Certificate Examination 2018 and maintaining outstanding academic record in college.

## RELEVANT COURSEWORK

**Computer Science:** Neural Networks and Fuzzy Logic (Ongoing), Object Oriented Programming in Java, Data Structures and Algorithms, Database Systems, Computer Programming in C

**Biological Sciences:** Biomolecular Modelling (Ongoing), Stem Cell and Regenerative Biology (Ongoing), Bioinformatics, Recombinant DNA Technology, Biophysics, Genetics, Cell Biology, Biochemistry

**Mathematics:** Probability and Statistics, Linear Algebra, Multivariate Calculus

## TECHNICAL SKILLS

**Language** C, C++, Java, Python

**Frameworks** Skicit-learn, Pytorch (Beginner), Tensorflow (Beginner)

**Tools** MySQL, GIT

## RESEARCH EXPERIENCE

**Undergraduate Researcher | Advanced Data Analytics and Parallel Technologies Lab, BITS Pilani**

**Jan 2021 — Present**

**Project: Hybrid DE-NOVO Genome Assembler**

**Advisor - Dr. Poonam Goyal**

- Implemented a two-level hash table structure to reduce the retrieval time and to make the algorithm easy to distribute and parallelize.
- Devised a maximum voting algorithm to increase the intermediate assembly length by **30%**.
- Working on error-handling algorithm and exploring the applications of machine learning in contig generation problem.

**Summer Research Intern | North Eastern Space Application Center, Govt. of India**

**May 2020 — Jun 2020**

**Project: QAI Toolbox: QGIS Plugin for Machine Learning and Deep Learning based Land Cover Classification**

**Advisor: Mr. Nilay Nishant**

*Government research lab serving eight states of India's North Eastern Region using space science and technology.*

- Developed three advanced land cover classification models for integration with QGIS through a plugin (QAI Toolbox).
- Achieved a kappa score of **0.81** on pixel-based models and accuracy of **94.46%** on CNN-based image segmentation models.
- QAI Toolbox was selected amongst the **top 30** worldwide for presentation at **QGIS North America 2020**, an annual international conference conducted by OSGeo.

**Undergraduate Researcher | Bioinformatics Lab, BITS Pilani**

**Jan 2020 — May 2020**

**Project: MiRNA and Acquisition of Drug Resistance in Cancer Cells**

**Advisor - Dr. Rajdeep Chowdhury**

- Analysed deep sequencing data of osteosarcoma cells in four different stages.
- Identified deregulated miRNA-mRNA sets responsible for the development of drug resistance to cisplatin.
- Studied and examined the impact of miRNA deregulation on cellular processes.

## LEADERSHIP POSITIONS

**Joint Coordinator, Tinkering Lab, BITS Pilani**

**Jan 2021— Present**

*Tinkering Lab will be a fully student-driven, 24x7 open makerspace to promote learning by doing.*

- Leading a team of six members to establish a multi-domain research facility at BITS Pilani for 5000+ students.
- Scope of work includes but is not limited to ideation, formulation, financial allocations, execution, and operations.
- Engineered five different programs to foster the entrepreneurial capability and instill a sense of social responsibility.