


ARPAN PARDESHI

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 [Arpan-Pardeshi](#)

Bioinformatician with a background in Genetic Engineering, integrating wet-lab techniques (PCR, gel electrophoresis, protein assays, DNA amplification) with computational analysis. Experienced in NGS data processing, genome assembly, and variant analysis using Python, R, SQL, and Bash in HPC environments. Skilled in machine learning using scikit-learn, NumPy, pandas with research and publication experience. Possesses hands-on experience in in silico drug discovery and end-to-end bioinformatics pipeline development.

EXPERIENCE

Bioinformatician (contract) | Unilever

England, United Kingdom

- Designed and implemented a genetic algorithm-based optimization pipeline after benchmarking multiple machine learning models.
- Performed data processing, modeling, and visualization using Scikit-learn, NumPy, and Matplotlib.
- Developed a Flask REST API for backend processing and integrated it with an Angular-based frontend application.
- Built an end-to-end solution combining data science and web development for a real-world R&D use case.

Junior Technician | Centre Of Medical Genetics

Chennai, Tamil Nadu

- Utilized Python to visualize inheritance patterns and mutation frequencies in genetic disorders.
- Performed pedigree analysis to trace familial transmission of rare inherited diseases.
- Analyzed case studies involving Sickle Cell Anemia, Down Syndrome, Thalassemia, Duchenne Muscular Dystrophy, and Schizophrenia.
- Shadowed clinical genetic counseling sessions, gaining exposure to ethical considerations, patient communication, and sensitive data handling.

Senior Teacher | Planet Spark

Vadodara (remote)

- Delivered 1:1 instruction in reading, writing, and public speaking using structured communication frameworks (ethos, pathos, logos) for students aged 10-21.
 - Mentored students in essays, speeches, and scientific writing, strengthening written and verbal communication
 - Achieved high conversion rate (1 in 7) and ranked in the top 15% of educators based on performance.
 - Conducted parent counseling sessions, communicating progress and driving measurable academic improvement
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EDUCATION

Bachelor of Technology in Genetic Engineering

SRM University | Chennai

- **Relevant Coursework:** Bioinformatics, Molecular Medicine, Biostatistics, Molecular Biology, Human Genetics, Immunology, Pharmacogenomics, Medical Microbiology.
- **Laboratory Experience:** Gene Expression, Recombinant DNA Technology, Cell Culture, Bioinformatics, Cytogenetics, Molecular Techniques Laboratory (I & II), Enzyme Engineering, Basic Immunology.
- **Thesis:** In silico analysis of active compounds from Kabasura Kudineer (KK) against SARS-CoV-2 spike protein and spike ACE- 2 receptor complex.

Masters of Science in Bioinformatics

Cranfield University | England

- **Relevant Coursework:** RNA-seq analysis (QC, alignment, differential expression, SNP/INDEL calling), Genome assembly (de novo, hybrid, long-read, short-read; k-mer analysis), Metagenomics (QIIME2, DADA2, taxonomic & phylogenetic analysis), Variant data processing (VCF/BCF parsing, BCFtools, SQLite, REST APIs), Proteomics & structural analysis (UniProt, PDB, SWISS-MODEL, PyMOL), Machine learning for metabolomics (PLS-DA, biomarker discovery, KNN, SVM, Random Forest), Bioinformatics pipelines (Snakemake, workflow automation, assembly validation, synteny analysis).
- **Group Project:** Collaborated on developing a modular Snakemake pipeline (mChIEAn) for genome assembly validation and gene annotation accuracy assessment.
- **Thesis:** Developed a genetic algorithm-based pipeline for recipe reverse engineering, using Scikit-learn, NumPy, and Matplotlib for modeling and visualization, and building a Flask API with an Angular frontend for an end-to-end system.

PUBLICATION

- 2019 Novel Coronavirus: A Review on Epidemiology, Pathophysiology, Diagnosis and Current Clinical Trials in Vaccine Development
(DOI: [10.2174/2666796701666201230104321](https://doi.org/10.2174/2666796701666201230104321))

HONOURS AND AWARDS

- **International Olympiad of Science | SilverZone Foundation**
International Rank 105, State Rank 2 (Round 1)
International Rank 381, State Rank 24 (Round 2)
- **Nationwide Biotechnology Olympiad | EduHeal Foundation**
National rank 584 in biotechnology competition