SUDARSHAN ARYAL

STUDENT

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EDUCATION

SRI SATHYA SAI INSTITUTE OF HIGHER LEARNING

- **B.S. Hons. with Research in Biosciences and Biotechnology**
- **2023–2027**

ST.XAVIER'S COLLEGE

- Senior Secondary Examination
- GPA: 3.62/ 4.0
- 2020-2023

SKILLS

- Project Management
- Public Relations
- Teamwork
- Time Management
- Leadership
- Effective Communication
- Critical Thinking

LANGUAGES

- Nepali: Fluent (Native)
- English: Fluent
- Hindi:Fluent

PROFILE SUMMARY

Biosciences student passionate about wildlife research and molecular dynamics, with hands-on skills in DNA extraction, PCR, bioinformatics, and molecular docking (PyMOL, Chimera). Experienced in lab techniques, biostatistics, and model organism handling. Seeking to apply my expertise in evolutionary and conservation biology research while expanding my knowledge in genomics and proteomics.

SKILLS

- **Laboratory Techniques**: Proficient in handling chemical/biological samples, agarose gel electrophoresis, SDS-PAGE, and microbiology techniques (culturing, staining, and aseptic methods).
- Model Organism Handling: Skilled in handling model organisms such as mice, Drosophila, and yeast (feeding, breeding, dissecting, and transporting).
- Molecular Biology: Expertise in DNA and plant extraction techniques.
- Bioinformatics: Proficient in using PDB tools, BLAST analysis, sequence alignment, genome browsing.
- Biostatistics: Strong knowledge of statistical techniques including regression analysis, hypothesis testing (t-test, z-test, chi-square test, ANOVA), data visualization using Excel/R/Python.
- Proficient in Operating Various Laboratory Instruments(ultra sonicator, centrifuge, laminar air flow, specrophotometer etc)
- **Technical Skills :**Molecular Modeling & Docking (Learning-based Experience)
- Practiced protein–ligand docking workflows using AutoDock Tools.
- Prepared protein and ligand structures using UCSF Chimera and Open Babel.
- Repeated docking exercises to understand binding poses, scoring functions, and interaction analysis.
- Developed conceptual understanding of structure-based drug design fundamentals.

CERTIFICATION AND ACHIEVEMENTS

- NCC Training: Completed training with the National Cadet Corps (NCC).
- Integrated Personality Development Program: Participated in 7 days residential integrated personality development program in kathmandu organized by Sri Sathya Sai Seva Organization Nepal.
- Participant in academic poster competitions (e.g., World Heart Day, World Microorganism Day)
- Authored science and nature articles on Substack and LinkedIn
- **Finishing School in Foundations of Cell Culture and Soft Skills**
  10-day Hands-on Workshop
  -Organized by Federation of Asian Biotechnologists Associations (FABA)
  -In association with Thermo Fisher Scientific
  -Received foundational training in mammalian cell culture techniques and laboratory best practices.
  -Covered principles of aseptic techniques, cell maintenance, and laboratory safety.
  -Participated in sessions on scientific communication and professional skills relevant to research environments.

RESEARCH EXPERIENCE & PROJECTS

Hybrid Genome Assembly using Oxford Nanopore & Illumina Data

Mentored Bioinformatics Research Project

- Genome sequencing data provided by a research scholar; analysis performed independently.
- Implemented hybrid genome assembly and polishing workflows using ONT and Illumina reads.
- Applied tools including Filtlong,Fastq, Autocycler,Flye,Raven,Medaka, Polypolish, PyPolca,Quast,Bakta,Prokka, Roary, and Snippy.
- Gained hands-on experience in microbial genomics, assembly evaluation, and variant analysis.
- Applied Blast and Barnapp for species identification.
- GitHub: https://github.com/Sudu-09-Nep/ont-illumina-hybrid-assembly