DATA SCIENCE FOR BIOLOGISTS

Hands-On Internship

PROJECT | PAPER PUBLICATION | WORK EXPERIENCE

Extensive 120 Days Hands-on Training With 3,6 & 12 Months Project Work

Exclusively Crafted For B.Sc., M.Sc., B.Tech M.Tech. & PhD Biotech, Life Science, Chemistry + B.Pharm, M.Pharm Students

GET WORK EXPERIENCE

PAPER PUBLICATION ASSISTANCE

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Your Bio Resource

Embark on a transformative journey with the Data Science Hands-On Internship for Biologists: From Basics to Advanced with Projects & Publication! Tailored for biologists, this program offers expert mentorship, hands-on training, and practical experience with essential data science tools. From foundational skills to real-world projects and publications, you'll gain everything you need to thrive in a data-driven biology career. Don't miss this chance to innovate, discover, and grow—your future in data science starts here!

Extensive 120 Days Hands-on Training With 3,6 & 12 Months Project Work

WITH ONLINE + OFFLINE PROJECT

Session No.	Unit No. and Topic
UNIT 1: Introduction: Why Learn Bioinformatics?	
Day 1	Ice-breaking Session on Bioinformatics Global Tools and Techniques
Day 2	Scope & Opportunities in Bioinformatics: India & Abroad
Day 3	Understanding Key Terminology in Bioinformatics Databases
UNIT 2: Dicephering Molecules at the Sub-molecular level	
Day 4	Carbohydrates and Proteins **Demo on tools: Cheminformatics**
Day 5	Lipids and Nucleic acids **Demo on tools: ChemDraw & ChemSketch**

Program Module

UNIT 3: Bioanalytics: Understanding the patterns of life

Day 6
Primary Sequences – DNA, RNA, and Proteins
Demo on tools: NCBI, EMBL, DDBJ, and SBI

Day 7
Secondary Structures – DNA, RNA, and Proteins
Demo on tools: GORV, Swiss model, I-TASSER, Phyre2

Day 8
Tertiary Structures – Stability, folding, and misfolding
Demo on tools: Protein Data Bank (PDB), EMBL and SBI

Day 9
Biochemical and Metabolic pathway analysis
Demo on tools: KEGG database and Cytoscape

UNIT 4: Biocomputing- Computer-Aided Drug Design (CADD)

Day 10
Introduction, Drug discovery pipeline: Target identification and validation, Lead identification and optimization, Virtual screening
Demo: IMPPAT and Dr. Duke's Phytochemical and Ethnobotanical databases for Phytochemistry Research.

Program Module

Day 11
ADMET Studies for the lead optimization.
Demo on tools: SWISS-ADME, Analysis,and Interpretation Boiled-Egg Model

Day 12
Introduction to protein and modelling concepts, types, homology modelling, and the ab-initio method.
Demo on tools: PDB tools, Swiss ExPaSy

Day 13
Constructing a Phylogenetic Tree-
Demo on tools: ClustalW, Clustal Omega

Day 14
QSAR Studies and Interpretation of Docking
Demo on Molecular docking software: Patchdock, Autodock, ClusPro web server

Day 15
Introduction to Molecular Dynamics and Simulation (MDS).

Unit 5: Biomimetics: Driving Deeper

Day 16
Pre-clinical (Bacterial, Fly, Plants, and Murine models), Human Clinical Trials for drug discovery, Functional genomics, and Comparative genomics.
Demo on the tool: Differential expression analysis on bacterial genome.

Program Module

Day 17
Protein-protein interaction network, STRING, Network terminology, Pathway enrichment analysis
Demo on the tool: STRING and Cytoscape.

Day 18
Human Genome project, Bacterial Genomics, Human Microbiome, and Epigenetics
Demo on database: Ensembl Bacteria, MicrobiomeDB

Day 19
Sanger sequencing, Next Generation Sequencing: DNA Sequencing, RNA Sequencing. miRNA Analysis.
Demo on the tool: Databases: dbSNP, Clinvar, Genome browsers: UCSC and Ensembl

Day 20
Basics of Genomics and Proteomics
Introduction to NGS technologies: Overview and Workflow

Day 21
Next-Generation Sequencing (NGS) – DNA Sequencing
Demo on tools: FastQC, Trimmomatic, BWA

Day 22
Hands-on NGS Practical Sessions
Data Analysis and Visualization

Program Module

Day 23 — NGS Data Preprocessing Using Python Scripts for Quality Filtering and Adapter Trimming

Unit 6: Penning Down: Publish or Perish

Day 24 — Publication types, formats, and journals

Day 25 — **Demo on the tool: Elsevier, Springer, Wiley, MDPI, and Bentham Sciences**

Day 26 — Research made easy with Artificial Intelligence (AI & ML) **Demo on the tool: Applications of ChatGPT in BioResearch**

Day 27 — Selection of the journal and indexing **Demo on the tool: Journal finder**

Unit 7: Proposal Writing and Grant Submission

Day 28 — Submission, Revision, and re-submission process **Demo on tool: Editorial Manager**

Day 29 — Structure and ingredients of proposal writing

Program Module

Day 30   Networking and funding from (govt./ private/ industrial partners)

Day 31   Portals for grant submission and prerequisites

Day 31   Generating primary data for proposal and funding

Unit 8: Coding for Biologist

Day 32   Introduction to coding for biologist

Day 33   Introduction to different User Interfaces
- **Linux**
- **Ubuntu**
- **Windows**
- **Mac**

Day 34   Location, Directory, path in computational terms. Basic configuration check of Computers.

Day 35   Cloud servers, Switching between different UIs, Basic Linux commands and their use

Program Module

Day 36	Linux in Bioinformatic analysis
Day 37	Getting Started with Python and R Python vs. R for Biological Data Analysis Installing Python, R, and Required Libraries
Day 38	Downloading and installation of python and IDEs
Day 39	Downloading and installation of R and RStudio
Day 40	Data Visualization Introduction to Data Visualization
Day 41	Creating Basic Plots with Matplotlib, Seaborn etc (Python)
Day 42	Creating Basic Plots with ggplot2 (R)
Day 43	Data Import and Manipulation Working with Biological Data Formats Basic Data Manipulation with Python and R
Day 44	Exploratory Data Analysis (EDA) Understanding Your Biological Data EDA Techniques in Python and R

Program Module

Day 45
Introduction to Bio Python
What is Bio Python?
Basic Bio Python Functions for Sequence Analysis

Day 46
Sequence Feature Analysis
Identifying and Annotating Sequence Features
Sequence Motif Search with Biopython

Day 47
Protein Structure Analysis
Introduction to Protein Structure Analysis
Using Biopython for Protein Structure Data

Day 48
Phylogenetic Tree Analysis
Phylogenetic tree construction, visualization and interpretation.

Day 49
Sequence Alignment
Introduction to Sequence Alignment
Pairwise Sequence Alignment with Bio Python

Day 50
Multiple Sequence Alignment
Multiple Sequence Alignment with Biopython
Sequence Alignment Tools and Techniques

Day 51
Clinical Data Preprocessing
Cleaning and Organizing Clinical Data
Handling Missing Data

Program Module

Day 52

Clinical Data Preprocessing Practicals Using Python
Biological examples

Day 53

Clinical Data Preprocessing Practicals Using R
Biological examples

Day 54

Survival Analysis
Introduction to Survival Analysis
Kaplan-Meier Estimator and Cox Proportional Hazards Model in R

Day 55

File Parsing and Data Retrieval
Reading and Writing FASTA Files
Parsing GenBank Files

Day 56

Working with Sequence data and analysis using Biopython

Day 57

Biopython for Phylogenetic analysis

Day 58

CADD data analysis using Python and BioPython
Working with molecular structures and visualization for drug designing
Analyzing drug bioactivity data to screen potential drug candidate

Program Module

Day 59 — Molecular structure visualization and analysis using python and biopython

UNIT-9: Introduction to AI and ML in Biology

Day 60 — Overview of Artificial Intelligence (AI) and Machine Learning (ML)

Day 61 — Introduction to Biology & Bioinformatics applications of AI/ML

Day 62 — Importance and significance of AI/ML in biological research.

Day 63 — Types of ML algorithms and their relevance in Biology & Bioinformatics

Day 64 — Supervised learning algorithms and its types of ML algorithms

Day 29 — Unsupervised learning algorithms and its types of ML algorithms

Program Module

Unit 10: Machine Learning in Bioinformatics

Day 66
Overview of supervised learning algorithms
Applications of in Biology & Bioinformatics (e.g., sequence classification, protein structure prediction)

Day 67 Classification algorithms in details

Day 68 Regression algorithms in details

Day 69 AI/ML tools for CADD and its applications

Day 70 Dimensionality reduction techniques (e.g., Principal Component Analysis) and their applications.

Day 71 Unsupervised learning applications in Biology & Bioinformatics

Unit 11: Deep Learning in Bioinformatics

Day 72-73 Introduction to Deep Learning

Program Module

Day 74	Introduction to Neural Networks
Day 75	Convolutional Neural Networks (CNNs) for biological analysis
Day 76	Artificial Neural Network for biological data analysis
Day 77	Recurrent Neural Networks (RNNs) for sequence data analysis

Unit 12: Data Preprocessing in Bioinformatics

Day 78	Data cleaning techniques for biological data
Day 79	Handling missing data in bioinformatics datasets
Day 80	Data normalization transformation methods Feature selection dimensionality reduction techniques in bioinformatics
Day 81	Applications of AI/ML in Genomics.

Program Module

Day 82   Applications of AI/ML in Proteomics. Protein structure prediction techniques: AI-based modeling, AlphaFold etc

Day 83   Application of AI/ML in Drug Discovery.

Day 84   Applications of AI/ML in Multi-omics.

Day 85   Practical Sessions using GitHub repository Hands-on exercises using relevant tools and datasets.

Day 86   Practical Sessions using GitHub repository Hands-on exercises using relevant tools and datasets.

Day 87   Practical Sessions using GitHub repository Hands-on exercises using relevant tools and datasets.

Day 88   Practical Sessions using GitHub repository Hands-on exercises using relevant tools and datasets.

Day 89   Practical Sessions using GitHub repository Hands-on exercises using relevant tools and datasets.

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Day 90

Introduction to Biostatistics
- **Overview of Biostatistics**: Definition, importance in public health and medicine, roles in research.
- **Basic Concepts**: Variables (categorical, continuous), data types, populations vs. samples.

Descriptive vs. Inferential Statistics: Explanation and examples.

Day 91

Data Types and Measures of Central Tendency
- **Data Types Review**: Nominal, ordinal, interval, and ratio data.
- **Central Tendency**: Mean, median, mode—when to use each.

Variation and Dispersion: Range, variance, standard deviation, interquartile range.

Day 92

Hypothesis Testing Basics
- **Null and Alternative Hypothesis**: Definitions and examples.
- **Type I and Type II Errors**: Explanation of errors in hypothesis testing.

Significance Levels (α): Understanding p-values.

Program Module

Day 93

Confidence Intervals
- **Understanding Confidence Intervals**: Meaning, interpretation, and significance.
- **Confidence Interval for Mean**: How to compute and interpret.

Relationship to Hypothesis Testing: Using CIs to assess statistical significance.

Day 94

Sampling Methods
- **Sampling Techniques**: Simple random sampling, stratified, cluster, and systematic sampling.
- **Sampling Bias and Its Impact**: Discuss selection bias, non-response bias.

Sample Size Determination: Power analysis and sample size calculation

Day 95

Study Design: Observational Studies
- **Types of Observational Studies**: Cross-sectional, case-control, cohort studies.
- **Biases in Observational Studies**: Confounding, selection bias.

Advantages and Limitations: Pros and cons of each study design.

Program Module

Day 96

Study Design: Experimental Studies
- **Randomized Controlled Trials (RCTs)**: Key features and methodology.
- **Blinding and Randomization**: Importance in reducing bias.

Ethical Considerations: Ethics in clinical trials and human subject research.

Day 97

Comparison of Means
- **Independent t-test**: Assumptions, application, and interpretation.
- **Paired t-test**: When to use it, examples, and calculations.

One-Way ANOVA: Introduction to analysis of variance.

Day 98

Non-Parametric Tests
- **When to Use Non-Parametric Tests**: For non-normal data or ordinal variables.
- **Mann-Whitney U Test**, **Wilcoxon Signed-Rank Test**, **Kruskal-Wallis Test**.

Chi-Square Test: For categorical data.

Day 99

Regression Analysis
- **Linear Regression**: Simple linear regression, model interpretation, assumptions.
- **Multiple Regression**: Multiple predictors, multicollinearity, model selection.

Model Diagnostics: Checking residuals, goodness-of-fit.

Day 100

Logistic Regression
- **Introduction to Logistic Regression**: Binary outcomes, odds ratio.
- **Model Building**: Interpretation of coefficients, model selection, and diagnostics.

Assumptions of Logistic Regression: Linearity, absence of multicollinearity.

Day 101

Survival Analysis
- **Introduction to Survival Data**: Censoring, survival time, event vs. non-event.
- **Kaplan-Meier Estimator**: Estimating survival probabilities.

Cox Proportional Hazards Model: Hazard ratio, multivariable survival models.

Day 102

Correlation and Association
- **Pearson Correlation**: Measures of linear correlation.
- **Spearman's Rank Correlation**: Non-parametric measure of association.
- **Chi-Square for Association**: In categorical data analysis.

Program Module

Day 103

Whole Genome Sequencing (WGS): Applications and Analysis
- WGS Workflow: Data Generation, Mapping, and Variant Calling
- Applications in Clinical Diagnostics, Population Genomics, and Evolutionary Studies

Day 104

Whole Exome Sequencing (WES): Enrichment and Disease Focus
- WES Workflow: Target Enrichment, Alignment, and Variant Analysis
- Industrial Applications: Rare Disease Identification and Precision Medicine

Day 105

RNA-Seq for Transcriptomics: Expression and Beyond
- RNA-Seq Workflow: Mapping, Quantification, and Differential Gene Expression Analysis
- Applications in Biomarker Discovery, Cancer Diagnostics, and Drug Response

Day 106

Single-Cell RNA-Seq (scRNA-Seq): Decoding Cell Heterogeneity
- scRNA-Seq Analysis: Dimensionality Reduction, Clustering, and Cell-Type Identification
- Applications in Developmental Biology and Precision Oncology

Program Module

Day 107

Long-Read Sequencing: PacBio and Nanopore Technologies
- Benefits of Long-Read Sequencing for Structural Variants and Complex Genomes
- Case Studies: Genome Assembly for Novel Species and Clinical Genomics

Day 108

Metagenomics: Decoding Microbial Diversity
- NGS in Metagenomics: Tools like QIIME2, HUMAnN, and MEGAN
- Applications in Industrial Biotechnology, Environmental Monitoring, and Human Microbiomes

Day 109

Epigenomics Using NGS: DNA Methylation and Chromatin Accessibility
- Techniques: Bisulfite Sequencing, ATAC-Seq, and ChIP-Seq
- Applications in Cancer Epigenetics and Developmental Biology

Day 110

Cancer Genomics: Somatic vs Germline Analysis
- Identifying Somatic Mutations, Copy Number Variations, and Gene Fusions
- Case Studies: Liquid Biopsy, Circulating Tumor DNA (ctDNA), and Precision Oncology

Program Module

Day 111

Multi-Omics Data Integration Using NGS
- Integrating Genomics, Transcriptomics, and Epigenomics for Biomarker Discovery
- Industrial Applications: Systems Biology for Disease Mechanisms

Day 112

Whole Genome and Transcriptome Sequencing for Rare Diseases
- Combining WGS and RNA-Seq for Disease Mechanisms
- Applications in Clinical Genetics and Personalized Healthcare

Day 113

Machine Learning and Artificial Intelligence for NGS
- ML Algorithms for Variant Prioritization, Gene Expression Prediction, and Biomarker Identification
- Tools and Case Studies: Deep Learning Applications in Genomic Data

Day 114

Advanced Visualization and Reporting for NGS Data
- Tools: Circos, UCSC Genome Browser, IGV, and Shiny Apps
- Generating Industry-Standard Reports for Clinical and Industrial Applications

Program Module

Day 115

Advanced Error Correction and Quality Enhancement in NGS Data

- Challenges in NGS Data: Sequencing errors, alignment inaccuracies, and bias in variant calling.
- Error Correction Methods: K-mer based approaches for raw read correction. Probabilistic models (e.g., Bayesian approaches) for base calling.

Day 116   Doubt solving session

Day 117   Doubt solving session

Day 118   Open discussion

Day 119   Test and Project instructions

Day 120   Project topic discussion

PROJECT TOPIC LIST

1. Novel lead optimization and presentation against HMPV/SARS-CoV-2/Mpox/Dengue Virus: An In Silico Drug designing and discovery approach.

2. Targeted antioxidants against mutant proteins responsible in Neurodegenerative disorders like ALS/FALS, Alzheimer's, Huntington's, and Multiple Sclerosis using a Structure-based Drug designing approach.

3. Identifying novel mutations in different complex disorders using AI-ML-based tools and designing the mutant protein model with quality and stability evaluation.

4. Different types of Cancer metabolomic studies to identify the affected cascade and to come up with personalized medicine solutions using CADD and Data science.

5. Analyzing the Pharmacokinetic and Pharmacodynamic Properties of Novel Drug molecules using AI-ML-based tools to help patients manage major complex disorders in a better way.

6. Drug repurposing against Respiratory disorders with pocketome and cavitome analysis using Computer Aided Drug Designing (CADD) and Machine Learning (ML).

7. Natural Lead molecules virtual screening library preparation, Docking against desired receptor and post dock analysis using AI-ML based tools and web servers.

8. Harnessing AI for Precision Mutation Hotspot Identification in NGS Data to Accelerate Targeted Therapies.

9. Next-Generation Sequencing for Comprehensive Pathogen Variant Detection, Tracking, and Surveillance in Infectious Diseases.

10. AI-Driven Discovery and Functional Analysis of Rare Genetic Variants in NGS Data for Understanding Rare Disease Pathogenesis.

PROJECT TOPIC LIST

11. Genomic Profiling with NGS for Tailored Treatment Approaches in Neurological Disorders: A Personalized Medicine Approach.

12. AI-Powered Microbiome Analysis Using NGS to Uncover Disease Associations and Discover Therapeutic Targets.

13. Exploring the Tumor Microenvironment with Single-Cell RNA-Seq and AI to Discover Novel Cancer Biomarkers and Therapeutic Pathways.

14. Predicting and Mitigating CRISPR Off-Target Effects with Single-Cell RNA-Seq and AI Models to Improve Gene Editing Precision.

15. Identification of Disease-Associated Genetic Variants via GWAS Analysis.

16. RNA-Seq Data Analysis for Differential Gene Expression in Cancer.

17. Classifying Cancer Types Based on Gene Expression Data.

18. Identifying Biomarkers for Personalized Drug Discovery.

19. Pathway Enrichment Analysis for Drug Target Identification.

20. Comparative Genomics Analysis of Viral Genomes.

21. Analyzing Protein-Protein Interaction Networks in Disease Pathways.

About the Instructor

Ms. Nilofer K Shaikh , PhD

With a strong background in big data analysis using computational approaches in cancer omics data, Ms. Nilofer K Shaikh brings a wealth of experience from MIT ADT University. Her expertise spans cancer research, drug design, molecular dynamics simulation, data mining, and various omics technologies. Proficient in Python, R, and computational methodologies, she has a deep understanding of genomics, metabolomics, proteomics, transcriptomics, pharmacogenomics, and AI for cancer treatment. Her skillset also includes machine learning, MySQL database management, and natural language processing (NLP

About the Instructor

Mr. Prodyot Banerjee

Prodyot Banerjee is a seasoned professional in Computer-Aided Drug Designing, Bioinformatics Analysis, and Genomics, boasting rich experience from institutions like CSIR-IGIB, CSIR-CLRI, IIT Madras, and Delhi Technological University.

With an M.Tech in Bioinformatics from Delhi Technological University, Prodyot has excelled in research and development roles, presenting his work at prestigious venues like IIT Kharagpur. His research is published in esteemed journals such as IEEE and Frontiers in Pharmacology, with more underway. Prodyot's GATE 2019 qualification from IIT Madras underscores his dedication to both academic excellence and professional growth. With a proven track record and relentless pursuit of knowledge, he is a valuable asset in bioinformatics, genomics, and computer-aided drug design endeavors.

About the Instructor

Dr. Elamathi Natrajan

Elamathi Natarajan is a dedicated bioinformatician with a robust background in computational biology, data analysis, and genomics. Holding a Doctorate in Bioinformatics from Dr. A.P.J Abdul Kalam Technical University and an MBA in Information Systems Management, she has made significant contributions to the field through both research and teaching.

She has served as an Assistant Professor and Head of Department (HOD) In-Charge at Kalinga University, Raipur, where she excelled in lecturing, research, and departmental management. At Biotecnika Info Labs Pvt Ltd, Bangalore, she played a key role in academic support, enhancing student success through coaching and program development.

Elamathi's expertise includes developing bioinformatics pipelines, conducting quality assessments, and applying machine learning algorithms to genomics data. Recognized for her work, including a Senior Research Fellowship from the Indian Council of Medical Research (ICMR), she continues to drive innovation in bioinformatics and is seeking a new challenge to further advance scientific discoveries.

Leading Biopharma Companies Hiring Biologists for Data Science Abroad

Illumina:

Illumina leverages AI and genomic data analytics to improve precision medicine, cancer genomics, and agricultural biotechnology.

illumina®

Google DeepMind
verily

Google (DeepMind, Verily)

Google has strong AI/ML research arms (DeepMind) and a dedicated healthcare subsidiary (Verily) actively involved in bioinformatics, drug discovery, and personalized medicine.

Microsoft (Microsoft Research)

Microsoft Research conducts cutting-edge research in AI, including areas relevant to biomedicine. They also offer cloud services and tools for life sciences.

Microsoft Research

Johnson & Johnson

J&J integrates AI and machine learning across pharmaceutical R&D, medical devices, and healthcare services. They use predictive analytics to streamline clinical trials, optimize patient recruitment, and personalize treatments.

Johnson & Johnson

Pfizer

An American multinational pharmaceutical and biotechnology company. They hire bioinformaticians for roles in drug discovery, clinical research, and vaccines development.

23andMe/AncestryDNA

These companies specialize in consumer genomics and utilize data science for genetic research and personalized health insights.

GSK

GSK invests heavily in AI for vaccine development and drug discovery. Their AI-powered analytics platforms enhance clinical trial design, monitor real-world data, and optimize supply chains for pharmaceutical manufacturing.

AstraZeneca

AstraZeneca employs AI and data science for precision medicine, improving drug discovery efficiency and clinical trial accuracy. They integrate machine learning tools to analyze complex disease pathways and predict patient responses to treatments.

Flatiron Health

Flatiron integrates real-world data analytics into oncology research, bridging the gap between clinical trials and routine patient care. They structure data from Electronic Health Records (EHRs) to accelerate cancer treatment insights and improve healthcare delivery outcomes.

flatiron.

Recursion Pharmaceuticals

Recursion combines machine learning, bioinformatics, and automation to analyze massive biological datasets. Their AI models identify new drug targets and repurpose existing drugs for rare diseases, significantly shortening the discovery timeline.

Recursion.

Interdisciplinary Nature

Data Science offers biologists unique chances to integrate their expertise with computational tools. Combining biology, statistics, and machine learning allows them to tackle challenges like genomic analysis, ecosystem modeling, and drug interaction predictions. This synergy fosters innovative solutions in healthcare, agriculture, and environmental science, positioning biologists as essential contributors to data-driven research.

Research Opportunities

Data Science provides biologists with research opportunities for complex questions with computational precision. From bioinformatics to biodiversity modeling, options such as drug discovery through machine learning and omics integration for personalized medicine enhance understanding and drive innovations in healthcare, agriculture, and sustainability.

Data Science is transforming biology, enabling biologists to analyze complex datasets and drive innovation. From genomic data in personalized medicine to enhancing crop yields, this integration has created exciting career paths. Biologists possess essential domain expertise, allowing them to utilize data science effectively. In healthcare, environmental science, and drug discovery, the ability to interpret biological data is crucial for research and technological advancement.

CAREER SCOPE IN

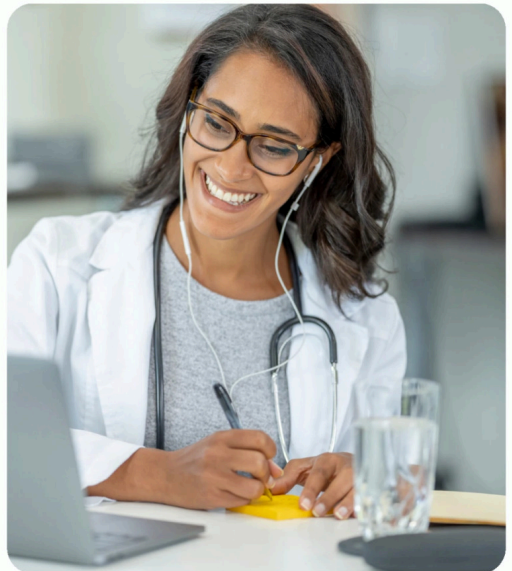## DATA SCIENCE FOR BIOLOGISTS

Pharmaceutical and Biotechnology Industries

Pharmaceutical and Biotechnology Industries are transforming drug discovery and precision medicine through Data Science. Skilled biologists analyze vast datasets to identify drug targets and improve development. Machine learning models extract insights from molecular interactions, speeding up innovation. This dynamic field offers biologists various career opportunities, establishing them as key contributors to future healthcare.

Healthcare and Clinical Applications

Data Science transforms healthcare by analyzing large patient datasets to uncover disease trends and treatment outcomes. Skilled biologists can develop AI diagnostic tools, predict patient responses, and identify biomarkers for precision medicine. This approach improves understanding of complex diseases and promotes personalized treatment strategies, enhancing patient care and healthcare efficiency.

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Academia and Education

Biologists skilled in Data Science are in high demand in academia, leading interdisciplinary research that combines computational techniques with biology. They enhance genomics, systems biology, and ecological modeling, while also educating future scientists in necessary computational and analytical skills. This expertise fosters impactful research and innovation in the life sciences.

Data Science and Big Data Analytic

Data Science and Big Data Analytics enable researchers to extract insights from large datasets, addressing challenges in biology, genomics, and healthcare. Utilizing machine learning and statistical analysis, data scientists improve agriculture, analyze patient trends, and predict environmental changes, creating diverse career opportunities in academia, industry, and entrepreneurship within the life sciences.

Emerging Technologies
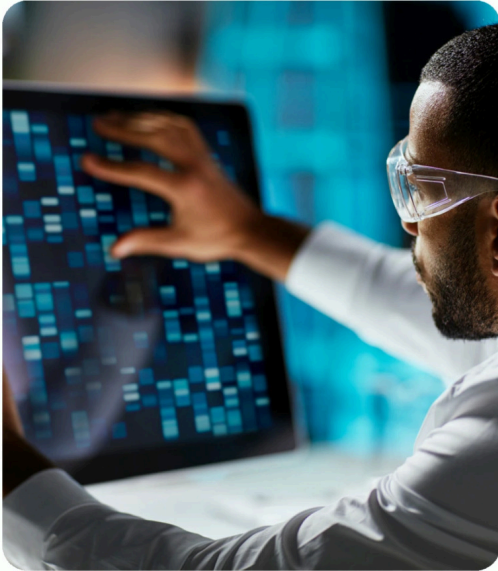
Emerging technologies in data science are transforming biology, creating exciting career opportunities. Biologists are using AI, machine learning, and bioinformatics to revolutionize fields like genomics, drug discovery, agriculture, and healthcare. These innovations enable more precise predictions, enhance research, and drive breakthroughs, opening new paths for biologists to tackle complex challenges and drive innovation.

Global Impact

Data Science is revolutionizing biology globally, enabling breakthroughs in personalized medicine, drug discovery, agriculture, and environmental conservation. By combining computational techniques with biological research, biologists are driving innovation and contributing to global efforts in improving health, sustainability, and well-being.

Data Science provides biologists with numerous career opportunities by leveraging data in genomics, healthcare, agriculture, and environmental science. Their expertise allows biologists to innovate and address complex challenges through data-driven methods. By engaging with this interdisciplinary field, they can enhance their research impact and pursue exciting careers in academia, industry, and entrepreneurship.

How Will This Internship Help You? And What will you learn?

✓ Interns will learn how to use Data Science tools and software to interpret complex biological data, and develop the skills necessary to design and implement their own computational pipelines.

✓ By the end of the program, interns will have gained hands-on experience with cutting-edge techniques and will be well-prepared to pursue a career in Data Science or related fields.

✓ Dive into the refreshing side of science with 30 days, 3 months & 6 months of Data science training! Get a complete 360-degree approach to Data Science with LIVE practicals, assignments & projects

✓ Troubleshooting sessions with seasoned professionals will ensure you have all the support you need to explore this exciting field.

Whether you're just starting out or already have some experience, our Data Science Hands-On Internship is designed to enhance your skills. You'll have the opportunity to learn from industry experts, work with cutting-edge tools and software, and engage in real-world projects. Join us for an exciting journey of learning, professional growth, and hands-on experience!