AI Biotechnology Training – Artificial Intelligence for Genomics, Proteomics & Drug Discovery

AI Biotechnology Training blends artificial intelligence with core biotech domains like genomics, proteomics, drug design, and bioinformatics. Gain expertise in predictive modeling, biomedical innovations, and computational biology through structured hands-on learning.

Our AI Biotechnology Training empowers students, researchers, and professionals to leverage artificial intelligence in genomics, proteomics, drug discovery, and bioinformatics, positioning them as future-ready leaders driving biotech innovations with machine learning, deep learning, and advanced computational tools.

This AI Biotechnology Training equips learners with practical skills in integrating artificial intelligence with biotechnology applications such as genomics, drug discovery, bioinformatics, and biomedical research for global career growth.

Module 1 – Fundamentals of AI and Biotechnology

Fees: Rs 5000/-

1. Introduction to Artificial Intelligence and its Evolution in Biotechnology
2. Core Principles of Machine Learning and Deep Learning
3. Overview of Genomics, Proteomics, and Transcriptomics
4. Basics of Bioinformatics and Computational Biology
5. Data Structures, Biological Databases, and Sequence Repositories
6. Introduction to Neural Networks and Pattern Recognition
7. Case Studies on AI Integration in Modern Biotechnology
8. Ethics, Regulations, and Data Security in AI Biotechnology

Module 2 – Student Training Module (50 Hours)

Fees: Rs 25000/-

1. Step-by-Step Guidance on Handling Biological Datasets
2. Hands-on Practice: DNA, RNA, and Protein Sequence Retrieval
3. Data Cleaning, Normalization, and Preprocessing Techniques
4. Supervised vs. Unsupervised Learning for Biological Data

5. Building Predictive Models for Gene Expression Analysis
6. Practical Use of Python and R in Bioinformatics AI Models
7. Mini-Project: Predicting Mutations and Their Biological Impact
8. Reporting and Visualization of Results in a Publication-Ready Format

Module 3 – Industrial Application (120 Hours)

Fees: Rs 95000/-

1. AI in Pharmaceutical Drug Discovery Pipelines
2. High-Throughput Screening using AI-Integrated Platforms
3. Protein Structure Prediction using Deep Learning (AlphaFold, Rosetta)
4. AI for Precision Medicine and Personalized Therapeutics
5. Automation in Laboratory Processes via AI Robotics
6. Big Data Analytics for Industrial Biotech Production
7. Case Studies: AI in Vaccine Development and Clinical Trials
8. Industrial Mini-Project: AI-driven Virtual Screening of Compounds

Module 4 – Research-Oriented Module (200 Hours)

Fees: Rs 150000/-

1. AI-Based Multi-Omics Data Integration (Genomics + Transcriptomics + Proteomics)
2. Pathway Interactomics and Systems Biology with AI Models
3. Application of AI in Epigenomics and Gene Regulatory Networks
4. Deep Learning for Protein-Protein Interaction Prediction
5. AI for Cancer Biomarker Discovery and Prognostic Modeling
6. Bioinformatics Pipeline Development with TensorFlow and PyTorch
7. Grant Proposal and Research Paper Preparation using AI Outputs
8. Capstone Project: AI-Driven Novel Drug Target Identification

Module 5 – Executive & Professional Module (80 Hours)

Fees: Rs 60000/-

1. Introduction to AI-Driven Business Models in Biotechnology
2. Technology Transfer and Intellectual Property Rights in AI Biotech
3. AI for Biotech Supply Chain Management and Production Scaling
4. AI-Powered Quality Control and Regulatory Compliance Monitoring
5. Decision-Making with Predictive Analytics in Biotech Enterprises
6. Case Study: AI in Clinical Data Management & Trial Monitoring
7. Entrepreneurship in AI Biotechnology Ventures

Module 6 – Capstone Live Project (300 Hours)

Fees: Rs 200000/-

1. Selection of Real-World AI Biotechnology Problem Statement
2. Dataset Curation, Cleaning, and Annotation from Biological Repositories
3. Custom AI Model Development (ML/DL Frameworks)
4. Experimental Validation with Laboratory Data
5. Collaborative Research with Industry Partners
6. Manuscript Writing and Peer-Review Training
7. Conference Presentation Skills and Poster Design
8. Final Submission and Oral Defense of Capstone Project