Bversity

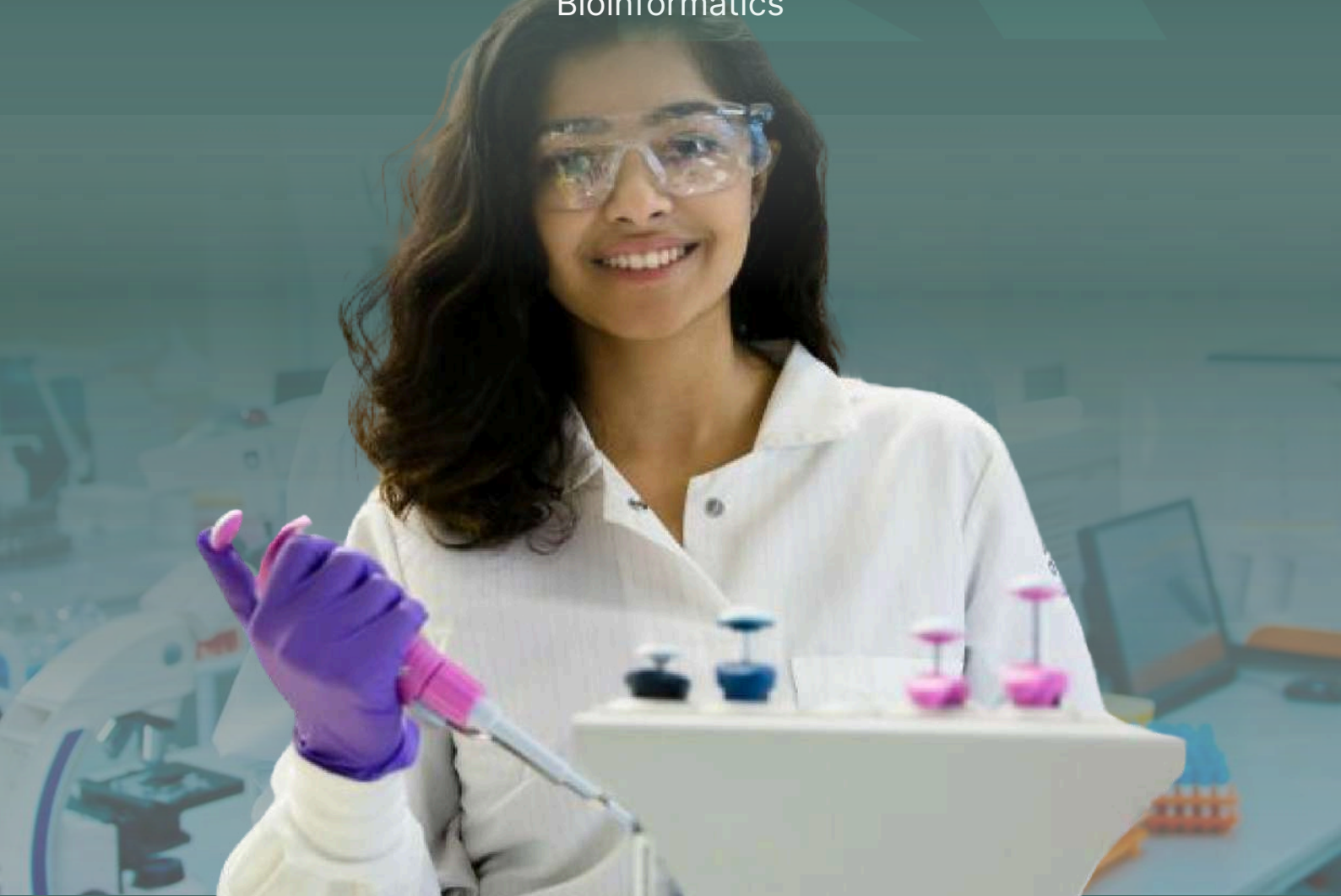
KUMARAGURU Institutions

SEA SAKTHI EXCELLENCE ACADEMY

SHRM Biotechnologies

Industry PG programme in Bioinformatics, Genomics & Data science

Transform your love for science into cutting-edge solutions with our industry-oriented PG programme in Bioinformatics



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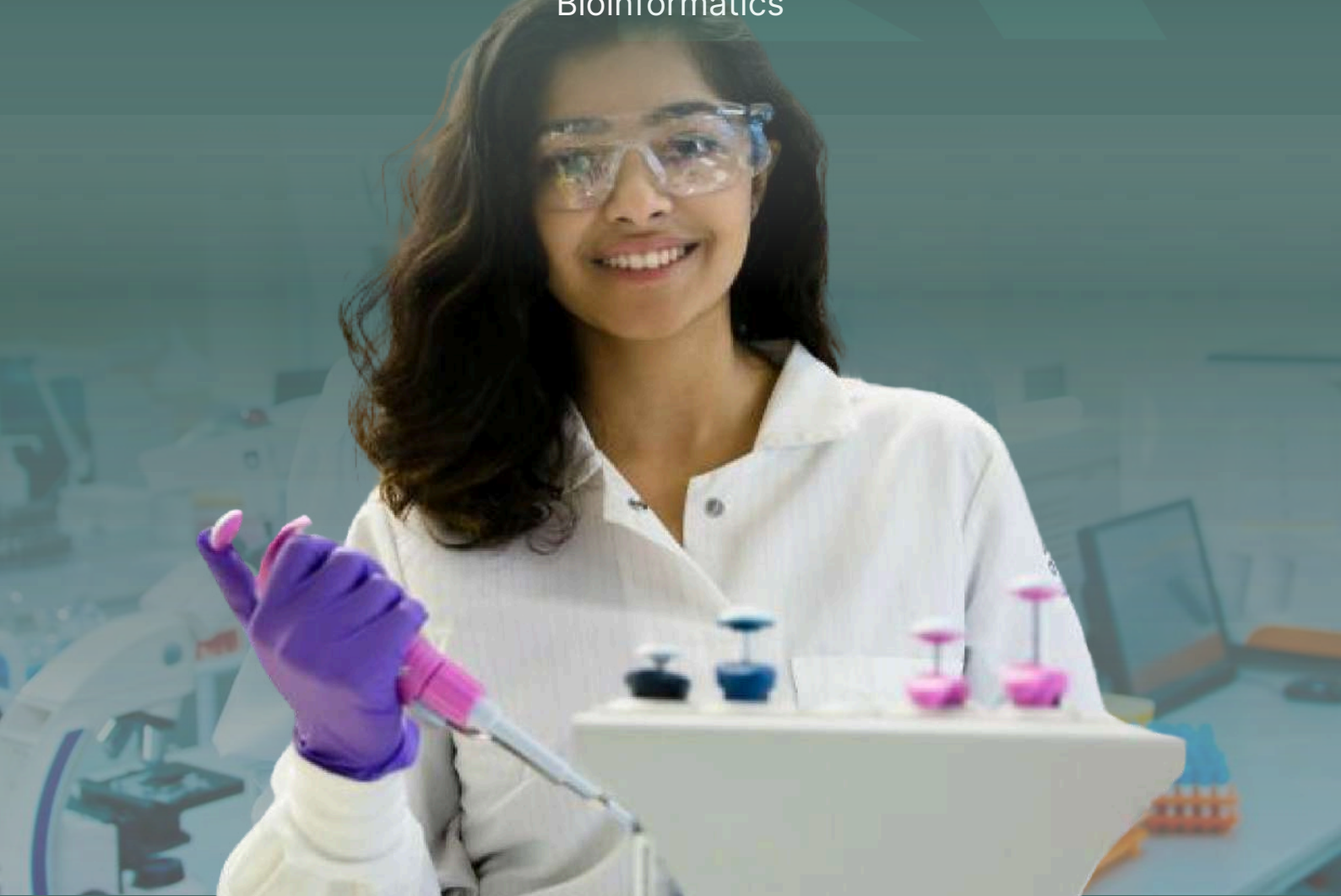

COURSE HIGHLIGHTS

Ditch the traditional 2-year masters and experience an 1 action-packed year

Accelerated Post-graduate Programme

While in traditional colleges you are engaged in 2 years masters program, you spend almost 1 year learning irrelevant & non-vital subjects

Work while you study in a Biotech firm

Immerse yourself in the biotech industry while pursuing your studies, with the exciting opportunity to work in a biotech firm while you learn at Bversity

Hybrid school for Biotechnology

Experience the best of both worlds, where online learning meets offline experiential experience, giving you the ultimate edge in this field

H.O.T.S and S.E.E.D based learning

Level up your skills through immersive hackathons, engaging workshops, and intense bootcamp-style learning experiences

INDUSTRY PG PROGRAMME IN BIOINFORMATICS

Bversity

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INDUSTRY PG PROGRAMME IN BIOINFORMATICS

Bversity

COURSE OVERVIEW

Join the league of the Top 10% Biotechnologists and accelerate your career with Bioinformatics

This **1-year PG programme** helps you launch into a successful career in the biotechnology industry with the right skillsets of bioinformatics, genomics & data science. No matter how little experience you currently have, our stellar curriculum features an engaging mix of weekly live sessions, mentor interactions, capstone projects, hackathons, workshops and industry work experience.

This is the ONLY programme in India built exclusively towards the industry needs, and is supported by pioneering biotech leaders.

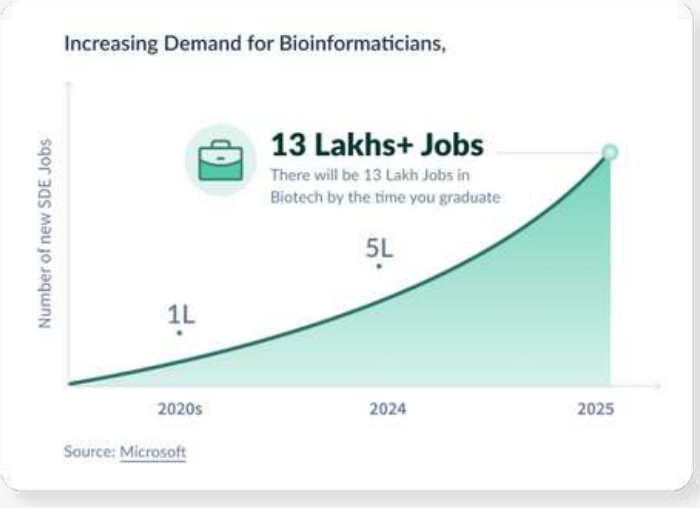
Ditch the traditional two-year grind and experience an **one action-packed year** in your journey to success, without compromising on the quality of your education. Get ready to **fast-track your way to the top**!

ABOUT BIOINFORMATICS & GENOMICS

Why learn Bioinformatics & Genomics

A career in bioinformatics can be **intellectually satisfying** and **financially lucrative**. It's open to anyone with a relevant background, but new researchers are in frustratingly short supply.

The goal of bioinformatics is to characterize humans at the molecular level, and to use this information to prevent and treat disease, and improve health and longevity. From genomics to proteomics, metabolomics to metagenomics, 'omics research is generating a flood of data. Bioinformaticians use **systems biology, AI and machine learning** approaches to look for patterns in the data. From this we can begin to unravel the mechanisms of disease, identify novel biomarkers and drug targets, and eventually develop therapies. It's tremendously exciting.



TICE

13 million jobs available globally in Bioinformatics & Genomics skill sets

Read More

THE ECONOMIC TIMES

Today India is recognized as the leading hub for Bio-innovation & Bio-manufacturing towards a $ 5 trillion economy

Read More

Bloomberg

Over 80% Indian Biotechnologists are unemployable, lack new-age technology skills: Report

Read More

HOW YOU LEARN ?

Get ahead by working with the Biotech industry

01. Learn

- Attend daily LIVE sessions with the industry expert mentors
- Specialise various areas by completing assessments & assignments
- Learn with a global community of students from across the world

02. Build

- Work on capstone projects along with the industry experts
- Build your expertise over an industry by participating in hackathons & bootcamps
- Master more than 15+ industry tools & softwares

03. Start your career

- Build your network with the most successful startups in biotech
- Position yourself as top candidates in the competitive biotech industry
- Stay ahead of your peers in the biotech revolution that is happening

As featured in

CISION
PR Newswire

"Randstad Sourceright's 2022 life sciences and Biopharma Talent Trends report found that a third (33%) of C-suite and human capital leaders in the life sciences and pharmaceuticals sector say ***talent scarcity is a major pain point for the sector****, which is hiring extensively this year. With demand for life sciences products expected to grow faster than the global GDP in the next few years, 45% of those same talent leaders say the main reason they are looking to hire is to prevent talent scarcity from slowing their business."*

Course structure and Schedule

Live classes are held 4 days a week for 6 hours each day. In addition, recorded content is made available throughout the week for self-paced learning.

Learners are expected to put in minimum of **30 hours of effort per week** to fully grasp and apply the concepts taught in the course.

Theory studio: Bioinformatics, genomics & data science

Online + Hybrid

- 6 subjects to complete over a period of 8 months which extensively covers industry skillsets and advanced techniques to solve an industry problem
- Use 15+ softwares & tools to work on real-time industry projects and problem statements

Core studio: Skill Enhancement Experiential Development (S.E.E.D)

Offline

- 12+ Workshops
- 2+ Hackathons with industries
- 5+ Bootcamps
- 5+ Mock interviews
- 12+ CEOs talk
- Portfolio & CVs built

Industry studio: In-Industry Training (I.I.T)

Offline

- 5+ Capstone projects
- 4 months of work in Industry
- 2 Industrial visit
- 2 Industry internships
- 2 Industry conferences
- 2+ Hackathons with industries

WHY BVERSITY ?

What the regular colleges weren't able to do, we do it in style

	Traditional Education	The Bversity Edge
1 Curriculum	Outdated	Real-world, ready for 2028 & beyond
2 Instructors	No Industry Experience	Work at Medgenome, Biocon, Laurus Bio & more
3 Assignments	Theoretical written papers	20+ industry assignments & projects done
4 Mentorship	No dedicated guidance	Monthly 1-1 sessions with Industry Professionals
5 Internship	No support for Internship Opportunities	Work in a leading Biotech firm while you learn for 5 months
6 Employability	Has to undergo extra training	Ready to work at Top Biotech Companies
7 Duration	2 long years	1 year & fast-track your career
8 Graduate	Still not ready to match the industry needs	At the level of a top Biotech firm's Mid-Scientist

Apply now

CURRICULUM

A learning journey that unlocks your biotechnology career for you

Module 1 : Introduction to Modern Biology and Bioinformatics

Modern Biology

- Relevance of Modern biology to Bio-IT.
- Bioinformatics tools, databases, and resources.
- Ethical considerations in Bio-IT research.

Module 2 : Cell Biology and Molecular Biology

Modern Biology

- Structure, function & types of cells.
- DNA, RNA, and Protein synthesis.
- Genetic regulation and gene expression.

Module 3 : Genomics and Next-Generation Sequencing

Modern Biology

- Introduction to genomics.
- Next-Generation Sequencing: principles and types.
- NGS data analysis: quality control, read alignment, variant calling, and data interpretation.

Module 4 : Omics Technologies and Data Analysis

Modern Biology

- Transcriptomics.
- Proteomics and Metabolomics.
- Integration and interpretation of omics data.

Module 5 : Molecular Interactions and Systems Biology

Modern Biology

- Molecular interactions: protein-protein & protein-DNA interactions and signalling pathways.
- Biological network construction and analysis.
- Network visualisation, Centrality analysis, and Module identification.

CURRICULUM

Module 6 : Synthetic Biology and Genetic Engineering

Modern Biology

- Fundamentals & Principles.
- Genetic engineering techniques,
- Case-studies, applications and use cases in Bio-IT.

Module 1 : Introduction to Programming

Progamming Languages

- Python & R programming basics and syntax.
- Variables, data types, operators, and expressions.
- Running a simple Python & R program.

Module 2 : Control flow statements and Functions

Progamming Languages

- Control flow statements: if, else, elif, and switch/case.
- Loops: for and while & Functions: parameters and return values.
- Built-in and user-defined functions.

Module 3 : File & text handling using python & R

Progamming Languages

- Reading and writing files.
- Text and File handling.
- Command-line arguments and user input.

Module 4 : Data manipulation & analysis

Progamming Languages

- Pandas library in Python.
- dplyr, tidyr, and readr libraries in R.
- Aggregating, filtering, and transforming data.

Module 5 : Data visualization

Progamming Languages

- Matplotlib in Python and ggplot2 in R.
- Creating line plots, bar plots, scatter plots, etc.,
- Customising aesthetics, and adding annotations.

CURRICULUM

Module 6 : Applications and Advanced Topics

Progamming Languages

- BioPython and Bioconductor.
- Real-world projects and case studies.
- Basic machine learning models.

Module 1 : Types of datas, databases and use cases

Data analysis & visualisation

- Biological & Non-biological Data: types and generation methods.
- Public and specialised databases for biological information.
- Searching strategies and Selecting appropriate databases.

Module 2 : Omics Data Analysis - Tools, Outcomes

Data analysis & visualisation

- Bioinformatics workflows and steps for data quality control.
- Data analysis in industry and healthcare using statistics.
- Programming language-based data analysis applications.

Module 3 : Data Analytics across different domains

Data analysis & visualisation

- Clinical trial analysis with electronic health records.
- Statistical methods used in clinical research.
- Microbiome analysis and Metagenomics for environmental data.

Module 4 : Fundamentals of Data Visualisation

Data analysis & visualisation

- Introduction: chart types, colour theory, data labelling and annotation.
- Tableau & Power BI for interactive data visualisation.
- Graph visualisation tools: Cytoscape, etc.,

Module 5 : Advanced Tools in Data Analytics and Visualisation

Data analysis & visualisation

- Natural Language Processing (NLP) with Azure.
- Advanced genomics visualisation using R programming.
- Network & 3D visualisation with Animation techniques for illustrating biological processes over time.

CURRICULUM

Module 1 : Introduction to Data Architecture & Database Management

Data architecture & mgmt.

- Data Architecture: importance, benefits and components.
- Biological Databases: types & significance.
- DBMS and Data Management Lifecycle.

Module 2 : SQL for Relational Databases

Data architecture & mgmt.

- SQL basics: syntax, structure, data manipulation.
- Querying Data & Joining Tables.
- Indexing and query optimization.

Module 3 : NoSQL databases and use cases

Data architecture & mgmt.

- NoSQL databases: introduction, types and use cases.
- Selecting the right NoSQL database for specific needs.
- Basic operations in different NoSQL databases.

Module 4 : Database Design Principles & Normalisation

Data architecture & mgmt.

- Entity-Relationship (ER) diagrams.
- Database normalisation techniques.
- Designing efficient and scalable databases.

Module 5: SAS for Data Management

Data architecture & mgmt.

- Querying techniques for complex biological data.
- Data cleaning, Transformation and Pre-processing data in SAS.
- Data integration and consolidation using SAS.

Module 6: Advanced SQL techniques for complex data retrieval and manipulation

Data architecture & mgmt.

- Data quality assessment, validation, storage and optimization.
- Data security, privacy, governance and compliance.
- Performance monitoring and tuning.

CURRICULUM

Module 1 : Introduction to Statistics in Biotechnology

Biostatistics

- Basic statistical terms and concepts.
- Descriptive and Inferential statistics.
- Experimental design principles: Randomization, Replication & Blocking.

Module 2 : Probability theory and distributions in Biotechnology

Biostatistics

- Probability theory and distributions.
- Central limit theorem, Hypothesis testing and Confidence intervals.
- Parametric and Non-parametric tests.

Module 3 : Regression analysis and modelling techniques

Biostatistics

- Regression analysis: Simple linear, Multiple linear and Logistic.
- Modelling techniques: Selection, Validation, and Diagnostics.
- Survival Analysis and CART.

Module 4 : Statistical design strategies

Biostatistics

- Completely Randomised and Randomised Block Designs.
- Factorial & Split-Plot Designs and Response Surface Methodology.
- Advanced Analysis of Variance (ANOVA).

Module 5: Advanced statistical techniques

Biostatistics

- Time series, Multivariate, Cluster, and Discriminant analysis.
- ML in Biostatistics.
- Meta-Analysis.

Module 6: Statistical analysis using SAS, SPSS, Python, and R

Biostatistics

- Data analysis using SAS and SPSS statistical softwares.
- Statistical Analysis using Python & R.
- Advanced statistical analysis: Linear & Logistic regression analysis, Parametric & Non-parametric statistics and ARIMA modelling.

CURRICULUM

Module 1 : Introduction to AI and ML

AI & ML

- Supervised learning vs. Unsupervised learning.
- Common Machine Learning algorithms.
- Deep Learning and Neural Networks.

Module 2 : Applications of AI and ML

AI & ML

- Drug & Biomarker discovery and development.
- Genomics & Proteomics.
- Medical imaging analysis.

Module 3 : Algorithm development & mathematical modelling

AI & ML

- AI/ML libraries and frameworks: scikit-learn, TensorFlow, PyTorch, etc.,
- Data management and preprocessing: Biopython.
- Model evaluation and interpretation techniques.

Module 4 : Data pipelines and workflow management

AI & ML

- Algorithmic paradigms: Greedy algorithms, Divide-and-Conquer, Dynamic Programming, etc.,
- Algorithm complexity analysis: Time and space complexity (Big O notation).
- Mathematical modelling for data analysis.

Module 5: Popular AI/ML libraries and frameworks for Bio-IT

AI & ML

- Data preprocessing pipelines: data cleaning, transformation, and feature engineering.
- Workflow management tools like Snakemake or Nextflow.
- Integrating AI/ML models into data pipelines.

Module 6: Ethical considerations of using AI/ML in biological research

AI & ML

- Real-world examples of successful AI/ML applications in Bio-IT research.
- Ethical considerations in biological research (data privacy, fairness, algorithmic bias).
- Future trends and advancements, e.g., integration with other technologies like robotics and automation.

TOOLS & PROJECTS

Master 15+ softwares and tools used in the Biotechnology industry

Immerse yourself in the realm of Biotechnology with our specialized programme designed to empower you with expertise in over **15 essential software and tools** driving the industry forward. From **advanced data analysis platforms to genetic engineering software**, our comprehensive curriculum ensures you are adept at utilizing the latest technological advancements that shape the field of Biotechnology.

Through hands-on training and real-world applications, you will develop the practical skills necessary to **excel in research, drug discovery, and biotech product development**. Stay ahead of the curve and unlock a world of possibilities with our industry-focused programme.


snakemake

TensorFlow

PyTorch

biopython

Power BI

tableau

Azure

sas

SQL

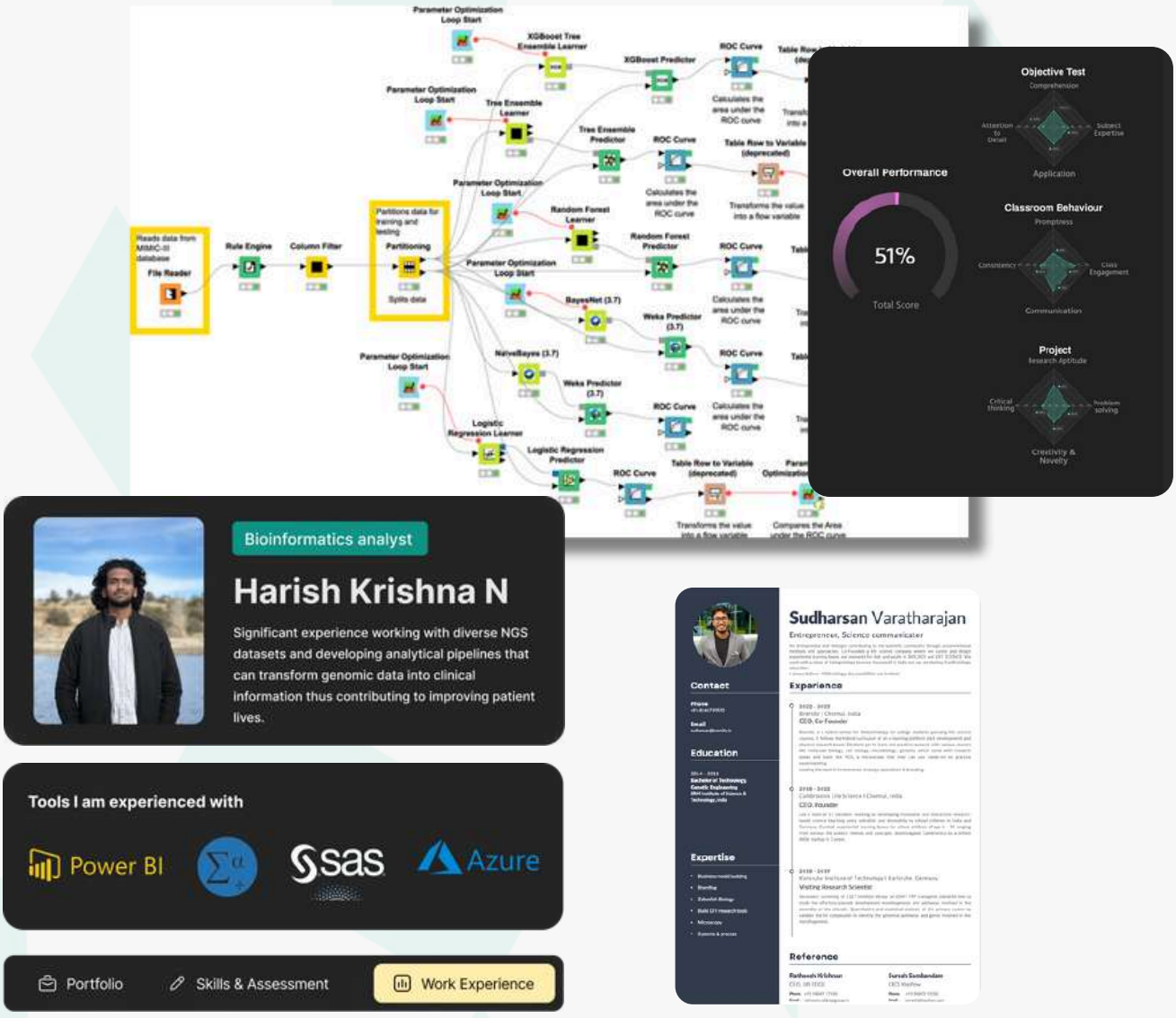
NoSQL

WE GO BEYOND

Portfolio and Resume

At Bversity, we understand the importance of creating a **strong identity for a biotechnologist**. Our comprehensive curriculum and hands-on projects empower students to develop a **compelling portfolio** and **resume** that highlights their unique skills, experiences, and accomplishments.

Our students confidently showcase their potential to employers, **positioning themselves as top candidates** in the competitive biotech industry.



EXPERT MENTORS

Mentor panel

Meet our **experienced faculty** at Bversity who are dedicated to providing personalized mentorship and leading students towards success in the field of bioinformatics.

Keerthanaasri J

mind&mom

BUILT
Healthtech apps

Diksha Pandey

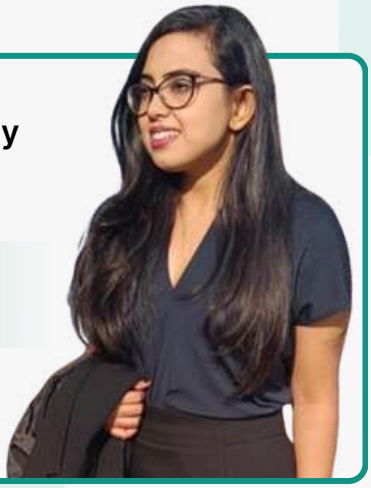
GENOMIKI

BUILT
100+ workflow pipelines

Aastha Pandey

lucidata

SENIOR
Data Analyst



Berty Ashley

Hanugen Therapeutics

BUILT
Cure for DMD

Gnaneshwar Yadav

BUILT
mRNA Translations

Manisha Bhardwaj

CRISPR BITS

BUILT
Proteomics apps

and many more industry experts as mentors

CAMPUS

Study in one of the finest campus in Tamilnadu

Unleash your full potential while studying amidst the **breathtaking beauty and state-of-the-art facilities** of one of Tamilnadu's premier campuses

Join us at **Kumaraguru Group of Institutions** for our termly gatherings, where we dive into hackathons, connect with industry professionals, and engage in a myriad of enriching activities, creating an unparalleled university experience.

ACADEMIC PARTNER

SHRM Biotechnologies

SHRM Biotechnologies

SHRM Biotechnologies started with a new vision to bridge the gap between the industry and institutes by understanding the needs of the industry and the potential of educational institutes. **SHRM Bio** aims to be the leading service provider in all major areas of industrial and academic biotechnology in Kolkata & India with a knowledge-based approach and personalized customer service.

SHRM Biotech has **one of the finest laboratory facilities on par with any research institute**, with latest equipments to work on all the aspects of Bioscience like Molecular Biology, Genetic Engineering, Microbiology, Immunology, Biochemistry etc with separate spacious labs creating an ambient atmosphere of true services.

PLACEMENTS

Bversity works with some of the leading Biotech firms in India

At Bversity, we foster strong industry partnerships with leading biotech companies, providing our students with unrivaled placement opportunities and valuable industry exposure for a seamless transition into fulfilling careers in the biotech sector.

As featured in

A|M|S

"One industry facing particular skills shortages is the life sciences. Industry trade group Pharmaceutical Research and Manufacturers of America (PhRMA) warned that the US would ***need to hire 3.4 million employees*** *to meet demand in life sciences and biotech by 2025, but* ***that 60% of those jobs would be vacant*** *due to s****kills shortages, a lack of effective education policies*** *and increased competition for talent from other countries."*

CERTIFICATION

You get a PG certificate accredited by Kumaraguru group of Institutions, Coimbatore

Upon successful completion of the course, you will **earn a PG certificate by Kumaraguru Group of Institutions, Coimbatore** along with Bversity school for Biotechnology. This PG certificate is **industry recognized** and also accredited by LSSSDC, DBT India.

ADMISSION PROCESS & FEE

A streamlined and easy admission process

Step 1

Online application

Submit the online application along with the required documents

Step 2

SOP evaluation

Shortlisted candidates will be required to submit a SOP & attend an assesment

Step 3

1:1 interview

Shortlisted candidates will be called for an online interview.

Step 4

Admission letter

The selected candidates will receive an offer of admission to the programme

Eligibility

- B.Tech, B.Sc (4 years) M.Sc & M.Tech Life science/Biotechnology graduates who passed with min 7 CGPA
- Students with qualifying marks in any entrance ((CSIR-UGC NET, GAT-B, DBT-JRF, CSIR, ICMR) doesn't require Assessment Test

Empowering Next-gen Biotechnologists

- 1 year of accelerated PG programme
- Work on Industry capstone projects
- Build your portfolio in the Biotech industry with experts
- Learn 15+ tools used in the Biotechnology industry
- Industry experts as your mentors
- Work in a biotech industry while you learn in your final term

Total program fee

INR 1,25,000

+ GST 18%

Learn With Easy installments & EMI Plans

The credit facility is provided by a third party credit facility provider and any arrangement with such third party is outside Bversity's purview.

ADMISSION PROCESS & FEE

Application form & details

Scan to apply for the program

Documents required

- Pan card
- Aadhar card
- 3 months bank statement and passbook
- Student's Aadhar card
- Student Mark sheet

Documents required for EMI

FEE DETAILS	TOTAL
Admission Fee	₹ 30,000
Term 1 Fee	₹ 47,500
Term 2 Fee	₹ 47,500
GST (18%)	₹ 21,600

ALUMNI VOICES

Hear our community talk about their industry journeys

Harish Krishna

I love the learning experience at Bversity school of Biotechnology because it truly is built on digital education combined with **actionable and practical challenges**.

Sneha Nair

An inspiring mindset coupled with the idea of **challenge-based learning** and **working on exciting projects** with great people from different places from various professional backgrounds convinced me to go on this journey with Bversity school of Biotechnology.

Sarvesh Galgale

I'm 100% sure that I will remember Bversity as the online college which allowed me to **gain direction first, and then learn the skills needed.**

Bversity

Empowering next-gen Biotechnologists

Join our prestigious PG programme in Bioinformatics, and embark on a transformative journey where cutting-edge research, interdisciplinary learning, and real-world applications converge to shape the future of bioinformatics and computational biology

Start Application

To know more about enrollments contact Ms. Ekata **+91 89810 03215 / +91 98300 19234** and **info@shrmbio.com**

www.shmbio.com/courses

www.bversity.io