# Crispin Joe Kenslin A

B. Tech Biotechnology

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Crispin Joe Kenslin A

## Summary

Being an undergraduate student in Biotechnology and shifting towards Bioinformatics has opened a new view on my knowledge in Biology and Computer Science. I am always interested in programming and performing wet lab experiments, and Bioinformatics is the integration that I am keen in working and exploring. I am constantly working on my skills in Bioinformatics tools and databases especially having an interest in Structural Bioinformatics and Tools Development. I also work in Machine Learning Models and Algorithms using Python and R, building my own models. Committed to continuous learning and contributing to real-world research projects.

## Academic Highlights

- **Subject topper** (100/100) in Class 12 Biology.
- **Best Poster Award**, Ecofest'24 (International Conference).
- **Overall Organizing Secretary**, National Science Day 2025.
- **Class Representative**, 2022–2023.
- Undertaking projects on structural bioinformatics tools in drug discovery.
- Independently learning Machine learning in Python from Scratch.
- Published **bioinformatics tools & ML models** on Github.

## Research Interests

- Structural bioinformatics
- Machine learning models in Bioinformatics
- Predictive analysis
- Molecular docking (Intermolecular interactions)
- Sequence analysis tools
- Algorithms and Models
- Drug discovery

## Languages

- **Tamil** – native
- **English** – Proficient
- **French** – Intermediate (Secondary Language in Higher Secondary)

## Education

**2022 – 2026** (ongoing)
**B. Tech Biotechnology**
*Tamil Nadu Agricultural University, Coimbatore*
*Tamil Nadu 641003*

**2009 -2022    SSLC and Higher Secondary (Class 1-12)**
*Sacred Heart Convent Anglo Indian Higher Secondary School, Villupuram, Tamil Nadu 605602*

## Hands-On Technical Skills

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|---|---|
| **Biotechnology Wet-Lab Techniques** | PCR, gel electrophoresis, PAGE, plasmid isolation, protein purification,ELISA, spectrophotometry, enzyme assays, bacterial and tissue culture, microscopy, bacterial transformation |

## Bioinformatics

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|---|---|
| **Databases** | NCBI, KEGG, UniProt, PDB, Ensembl, PubChem, DrugBank, Dr. Duke's Phytochemical Database,CTD,GEO,OMIM,BioCyc and Many crop-based databases |
| **Tools** | BLAST, MEGA, RasMol, DNASP, Mapmaker, ADMETlab, SwissADME, PyRx, Discovery Studio Visualizer, Autodock, ChimeraX, SPDBV, OpenBabel, ClustalW.Gromacs, |

| Programming Languages & Tools: | | |
|---|---|---|
| | **Python** (Intermediate) | Data analysis and machine learning using Pandas, NumPy, Matplotlib, Scikit-learn |
| | **Models** | Linear regression, Logistic regression, Poly regression, Decision tree, Random Forest,SVM, Markovian chains and MC simulations |
| | **R** (Intermediate) | Statistical analysis with Distributions, Testing of hypothesis with t,f,var,chi-square,fisher tests, Correlation and Regression (Simple , multiple and Stepwise), PCA and Graphs using Tidyverse, ggplot2, dplyr, |

**Git and Github -** Version Control Management and tracking

**C** (Intermediate)

**Perl** (Basic)

## Projects

- *In-Silico* analysis of inhibitory phytochemicals of *Oenothera biennis* against multiple targets of SARS-CoV-2. (ongoing)
- **Prediction of Tumor** and Lodging Resistance using **Machine learning models** in Python. (Github - https://github.com/crispinjoekenslin-25/TumorModel)
- **DNA Sequence Analyzer from Scratch** using Python.
- **Hydrophobicity plotter** with multiple window sizes in a single graph. (Link)
- **Clustering APP – Clustrix Pro –** web application using R and R shiny library
- **RNA Expression Analysis -** R script for simulated RNA expression analysis (Link)
- **Transcription Factor Finder –** a web app that find and gives a visual output of the transcription factors in a sequence. (https://crispinjoekenslin-25.github.io/TF_Finder/)

## Conferences

- **Bioconcorrenza'23 & '24** – National Symposium on Biotechnology.
- **Ecofest'24** – International Conference on Sustainable Synergy: Navigating the Energy and Environmental Nexus.

## Academic Posters
- Ecofest'24 - **Predictive analysis using data models** – AI in Energy and Environment.
- Mendel's Day 2025 – **The Legacy of Gregor Mendel: Pioneering Principles of Heredity** – TNAU, Coimbatore.

## Leadership Experiences
- **Overall Organizing Secretary** – National Science Day 2025 (Bioconcorrenza'25).
- **Class Representative** – 2022-23 – 1st year B. Tech Biotechnology.

## Academic Engagements
- Interactive session with **Dr. Sudhagar Pitchaimuthu**, Heriot-Watt University, Switzerland on **"What after Biotech UG?".**
- Attended a guest lecture on **"General perspective on trait development and commercialization in seed industries"** by **Dr. Azhaguvel Perumal** held at TNAU.
- Attended 5-day Workshop - **Agri-Tech Start-Ups Business Meet'2025** held at COXBIT, TNAU.
- **"Career Opportunities in Omics Data"** analysis by **Dr. Vivek Chandramohan**, CEO, Insilicomics Research Pvt. Ltd., Ooty.
- **Dr. Ajay Kohli, DDG, IRRI**
- **"Molecular breeding and Genotyping in the Seed Industry"** by **Dr. Jagadeesh Selvam**, Rasi Seeds Pvt. Ltd, Salem.
- **"Plant Genomics in the era of Bid Data and Artificial Intelligence"** by Dr.Sumanth Mutte, Founder and CEO, MyGenInformatics – Inda & Netherlands.
- **"Carbon capture and fixation: Biotech solutions for Agricultural & Climate change"** by Dr.Preethi Marimuthu, R&D Director, Marisym Biologicals Pvt. Ltd., Coimbatore.

## Awards
**Subject Topper in Biology** – Class 12 – May 2022

**Best Poster Presentation** – Ecofest'24 – Aug 2024

## Certifications
1. **Experimental Biotechnology** - NPTEL – IIT Guwahati (12-week course) – Elite Certificate – 69% - Nov 2024
2. **Nanotechnology in Agriculture** – NPTEL - IIT Kanpur (8 week course) – Elite Certificate – 73% - Mar 2025
3. **Machine Learning I** – Columbia University (Columbia+ Online)

## Extra-curricular Activities
- Music – Keyboard, Guitar, Drums (more than 10 years)
- Photography and filmography –Photo and Video Editing – Animation and 3D modelling
- Electronics and Physics
- Sports – Basketball and Table tennis
- NSS volunteer in college