VANSHIKA RAJPARIA

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EDUCATION

B.E. Computer Science & Msc. Biological Sciences,
BITS Pilani (June 2025)   **CGPA: 9.01**

TECHNICAL SKILLS& COURSEWORK

Coursework: Bioinformatics, Genomics, Molecular Biology, Cell Biology, Genetics, Immunology, Recombinant DNA Technology,Data Structures and Algorithms, Object-Oriented Programming, Database Systems.

Bioinformatics: Next-Generation Sequencing (NGS), RNA-Seq, Transcriptomics, GTF/FASTA.

Data Science: Machine Learning, Data Analytics, NLP, Deep Learning, Data Visualization.

Programming Languages: Python, C++, Java, R, JavaScript, SQL, MATLAB, Bash.

Frameworks & Tools: React, MERN Stack, TensorFlow, PyTorch, Scikit-Learn, Pandas, NumPy, Git, REST APIs, Power Platform, MongoDB.

EXPERIENCE

Software Developer   July 2024 - Present
ORACLE   *Bangalore*

- Working in the Database Security team on the project **Generating concise summaries of Audit Insights using AI/ML**.
- **Utilized Generative AI, LLMs, REST APIs, SQL and Java** to generate summaries of audit insights. The summaries are integrated within asynchronously generated audit reports in Oracle DataSafe, a feature of Oracle Cloud Infrastructure.
- Developed APIs and security features, performed unit testing, and end-to-end testing, for Oracle DataSafe's security policies.

Summer Research Intern   June 2023 - Aug 2023
University of California, Los Angeles (UCLA) *Los Angeles*

- Developed an **Electronic Dental Referral Management System (EDRMS)** at the UCLA School of Dentistry using Microsoft Power Platform, to maximize dental coverage to all the schools in California.
- Designed a data model based on **ERD principles** and implemented the app's **user interface and business logic**, streamlining patient referrals and identifying trends enhancing overall oral health outcomes.

Summer Intern   July 2022 - Aug 2022
Aktivolabs Singapore Pte. Ltd.   *Singapore (Remote)*

- Worked on Data Analytics in the healthcare domain to **predict the susceptibility of the UK population to diabetes and other chronic illnesses**.
- Conducted comparative analysis of **predictive Machine Learning algorithms**, including **NLP-based classification** of illness descriptions into disease categories, with model evaluation for predicting diabetes susceptibility and supporting informed healthcare decision-making.

Summer Intern   May 2022 - July 2022
Regional Remote Sensing Centre (RRSC), ISRO   *Jodhpur (Remote)*

- Developed an **AI/ML model using RCNN** for solar panel detection in satellite imagery.
- Learnt basics of ML and CNNs including a course - 'Basic Image Classification with TensorFlow'.

PROJECTS

RNA Seq - Next Generation Sequencing

- Built a targeted RNA-Seq analysis pipeline with **quality control (FastQC)**, read filtering/adaptor trimming **(Trimmomatic)**, and alignment using **STAR**.
- Generated custom GTF annotations, performed reference-based alignment, and quantified gene expression with **HTSeq** and **featureCounts**.
- Interpreted results with exploratory plots and gene-level summaries to assess pipeline quality and expression trends.

Influenza Virus Mutation Prediction - ML Model

- Developed an ML model to predict mutation probabilities for Influenza Virus proteins using **feature engineering** on **sequence conservation**, **GC content**, mutation type, and structural data.
- Applied a **Random Forest Regressor** with custom feature weighting, evaluated using **cross-validation** and **R^2 scoring**.

CureCraft - Full Stack Web App

- Built a **full-stack medical center management app** using the **MERN stack**, with features including online booking, rescheduling, patient history, and automated email/SMS reminders.
- Implemented **dynamic specialty-based search** with **MongoDB indexing**, secure **REST APIs**, prescription uploads, and an **admin dashboard** with **real-time analytics**.

ACCOMPLISHMENTS

Payload Team Member @SEDS – Honorable Mention, Spaceport America Cup 2020

- Investigated the effect of microgravity conditions on anti-microbial resistance which served as the rocket's payload experiment.

INSPIRE Scholarship Awardee – Ministry of Science

- Awarded to top 1% of students the state of Maharashtra for academic excellence in STEM.

POSITION OF RESPONSIBILITY

Secretary - Synapsis, Biology Association of BITS Pilani   Aug 2022 - July 2023

Head - Biological Payload Team @SEDS BPHC, the Rocketry Club   Aug 2021- July 2022

PERSONAL INFORMATION

Citizenship : United States of America