HIMANI CHOUDHARY

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Results-driven Data Scientist and Clinical Genomics Specialist with extensive hands-on experience in analyzing real-world healthcare, omics, and clinical trial datasets. Expert in designing scalable ML/statistical models for clinical research, developing AI-assisted data representations, and deploying production-ready analytics solutions. Proven collaborator with clinical and technical teams, focused on transforming complex data into actionable insights to accelerate drug discovery and clinical study optimization.

SKILLS

Programming/Scripting: Proficient in Python and R, with strong working knowledge of shell scripting (Bash), Git, mySQL and basic workflow automation.

Data Analysis & Statistics: Tensorflow, Keras, Statistical modeling and data visualization using pandas, scikit-learn, NumPy, ggplot2, seaborn, and Tableau.

NGS Tools: Skilled in GATK, BWA, STAR, Salmon, samtools, Bowtie2, VCFtools, and BEDtools for workflow execution and troubleshooting.

Workflow Management: Hands-on with Nextflow, Docker, AWS Cloud, and Linux environments for pipeline development and deployment.

Transcriptomics: Trinity, MEGAHIT, spades, HISAT2, STAR, deseq2, edger, Pydesq2
Metagenomics, Epigenetics And Muti Omics: WGS, chip-Seq, ATAC-seq, Amplicon seq, shotgun seq DADA2, QIIME2, and MACS2, Phyloseq, PROKKA, Kracken2 Gseapy and GWAS

AWARDS:
GAT-B: Qualified (AIR-72)
DBT Scholarship: 2022 – 2024
GATE XL (2024) – Qualified

EDUCATION

M.SC. BIOINFORMATICS
Bioinformatics Centre, Savitribai Phule Pune University, Pune
CGPA – 9.6 (Aug 2022 – May 2024)

B.SC. BIOTECHNOLOGY
Department Of Biotechnology, Central University of Rajasthan
CGPA – 8.15 (July 2019 – May 2022)

EXPERIENCE

Edgene Biomed Pvt Ltd | Technical Head
Sept 2024 – Present | Gurugram

- Engineered and deployed clinical data analytics platforms with fully integrated APIs for omics and transcriptomics studies, delivering insights for clinical teams and supporting regulatory compliance.
- Led cross-functional collaboration on multi-omics and clinical data integration projects; interpreted EHR, WGS, and RNA-seq datasets for biomarker and outcome analysis.
- Developed and validated machine learning prediction models for clinical diagnostics, including biomarker classification and report automation.
- Implemented end-to-end automated ETL and analysis pipelines using Nextflow, Docker, R, and Python, supporting large-scale clinical and omics data processing in cloud environments.
- Designed and automated interactive clinical data visualizations and dashboards, improving communication of results with both technical and clinical stakeholders.

Biosetup LifeSciences Pvt Ltd | Freelance AI & Data Science Educator
Nov 2024 – Present | Remote

- Led modules on NGS, metagenomics, and machine learning for cancer biology, including prompt design and information retrieval using LLMs for real-world biological datasets.

PROJECTS

INTERNATIONAL PROJECT

- Blended Mobility Focusing on Norway-India Water-Soil Microbiome Nexus (NIWASm) in collaboration with University of Southeastern Norway.
- Analyzed, visualized and interpreted metagenomics data

PREDICTIVE HEALTHCARE ANALYTICS PLATFORM

- Built end-to-end machine learning solution for breast cancer classification using gene expression profiles, achieving 92% prediction accuracy
- Designed testing framework for model performance evaluation and continuous improvement

DEEP LEARNING FOR MEDICAL IMAGE ANALYSIS

- Developed CNN-based classification system for disease detection in medical imaging data. Implemented data augmentation and preprocessing pipelines handling large-scale unstructured medical datasets

CERTIFICATIONS

WORKSHOP ON "GENERATIVE AI APPLICATIONS IN SCIENTIFIC RESEARCH AND INDUSTRIAL PROBLEMS":

The workshop provided an introduction to fundamental AI/ML/DL techniques and their practical implementation in the development of generative AI servers. It also explored their relevance in biological research, particularly in precision medicine and the use of generative AI for disease diagnosis.

BIOINFORMATICS CENTRE, SPPU; DEPARTMENT OF MATHEMATICS, SPPU; PERSISTENT SYSTEMS, PUNE (JAN 2024)

WORKSHOP AND SYMPOSIUM AS A PART OF UTFORSK PROJECT, "BLENDED MOBILITY FOCUSSING ON NORWAY INDIA WATER SOIL MICROBIOME":

The workshop featured a series of lectures, project discussions, and interactive sessions focusing on the exploration of scientific research concepts related to the soil-water microbiome nexus between Norway and India.

DEPARTMENT OF NATURAL SCIENCES, UNIVERSITY OF SOUTHEASTERN NORWAY, BO, TELEMARK, NORWAY (SEPT 2023)

WORKSHOP AND SYMPOSIUM AS A PART OF UTFORSK PROJECT, "BLENDED MOBILITY FOCUSSING ON NORWAY INDIA WATER SOIL MICROBIOME":

The workshop covered the basics of metagenomic data analysis, including various pipelines used to extract different analytical insights from the data. This included an overview of the DADA2 pipeline, which is based on the R programming language. Additionally, we were introduced to geological survey data related to soil, and there were also opportunities for site visits.

BIOINFORMATICS CENTRE, SPPU (MARCH 2023)

HANDS-ON WORKSHOP ON "NGS DATA ANALYSIS OF VIRAL AND CLINICAL DATA":

Sessions on Illumina informatics solutions, hands-on COVID data analysis, as well as demonstrations of exome data analysis and variant interpretation techniques.

PREMAS LIFE SCIENCES, DELHI (MARCH 2023)

ONLINE COURSE ON "ENGINEERING MATHEMATICS":

The course covered various topics in differential calculus, integral calculus, linear algebra and differential equations with applications to various engineering problems.

IIT KHARAGPUR (NPTEL)

DEC – 2021 (12 WEEKS)

ONLINE COURSE ON "COMPUTER AIDED DRUG DESIGN":

The course covered structure and target-based design, molecular modeling, quantum mechanics, drug likeness properties, QSAR and pharmacokinetic and dynamics using several software like Autodock, MarwinSketch.

IIT MADRAS (NPTEL)

DEC – 2020 (8 WEEKS)

DECLARATION

I do hereby, declare that the particulars and facts shared herein above are true correct and complete to the best of my knowledge and belief.