Abhilash Dhal

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EXPERIENCE	**Data Scientist**	Serimmune

Jan' 2020 - Present — Goleta

Bioinformatics/Data Science

- Drove **$10M in revenue** through business partnerships for biomedical projects involving complex diseases, vaccine design and cancer drug response therapy.
- Co-developed **standardized QC metrics** for NGS pipeline, led system-wide analysis to identify duplicate samples and corrupted samples **saving over 20 hours of manual effort** per month.
- Led strategic efforts cross-functionally to conduct **fundamental methods research**, investigate **machine learning models** and develop **internal dashboards** for improving **custom bioinformatics analyses**.

Data engineering/Software development

- Led strategic efforts for **optimization of data inventory** (via migration from Bigtable to BigQuery), leading to **cost savings of over $180K** annually.
- Co-Developed and maintained automation pipelines for **most commonly used analyses** using nextflow, leading to **50% faster turnaround of projects**.

EDUCATION

University of California, Davis, CA

Master of Science, Biophysics,   Dec' 2019

(Deep learning, Population and Quant. Genetics, Comp. Drug Design, Algorithm Design)

- **Thesis Project**: Developed, applied and evaluated **bayesian regression models** for GWAS and Genomic prediction.   (SSBR-JWAS)

Indian Institute of Technology, Varanasi, India

Master of Technology, Biochemical Engineering,   Aug' 2016

- Junior research fellow(JRF)(**top 0.01%**) in the Graduate aptitude test examination(GATE)

Indian Institute of Technology, Varanasi, India

Bachelor of Technology, Biochemical Engineering,   Aug' 2015

- secured **(top 0.1%)** of 450,000 students in the Joint Entrance Exam(JEE)

PROJECTS

Immune profiling, antibody discovery and disease diagnostics   Serimmune

- Worked on Infectious, cancer and autoimmune diseases to identify and validate disease specific antibody signatures.
- Applied custom feature selection models to improve sensitivity of SARS-CoV-2 diagnostic panel (**PCT/US2021/038960**)

Open source ML/DL and bioinformatics   (OmixHub)

- Streamlining commonly used machine learning and bioinformatics algorithms for different Omics datasets.
- Application of dimensionality reduction, optimized clustering, supervised classification and differential gene expression on Genomic Data Commons datasets.   (2023)

Deep-learning projects:

- Intracranial hemorrhage detection using convolutional neural networks   (Final Report)
- Real time strategy agents for Starcraft-II using deep reinforcement learning (Final Report) (SC2-GCP-CNN)

MISC

Co-Authored Publications: Nature(2023),JOC(2022),Comm.Biology(2021)

Programming Languages: Python, Julia, Java, bash, R, MySQL

Frameworks and Tools: Keras, Scikit-learn, streamlit, shinyR, BigQuery, Bigtable, nextflow

Certifications: AI using Tensorflow, Data Science, Web App Development (Streamlit)