Abhilash Dhal

abhilashdhal.com
adhal@ucdavis.edu | 530.574.4771 |

EDUCATION

UC DAVIS
MS in Biophysics
Grad. Dec 2019 | Davis, CA

IIT-VARANASI
B.tech/M.tech in Biochemical Engineering
Grad. 2016 | Varanasi, India

BOMBAY SCOTTISH SCHOOL
Grad. May 2011| Mumbai, India

LINKS

Github:// **adhal007**
LinkedIn:// **abhilash-dhal-145551177**

COURSEWORK

GRADUATE
AI and Deep learning
Introduction to Probability theory
Introduction to Mathematical Statistics
Algorithm Design
Special topics in AI
Population and Quantitative Genetics
Macromolecular Structure and Interactions
Biophysics Techniques
(Research Asst. & Teaching Asst 2x)
Computational Drug Design

COMPUTER SKILLS

Programming languages
C • Julia • Shell • Python • R • java • LaTeX
Libraries(Python):
Tensorflow • PyTorch • CSS • SciPy • SciPy • Numpy
Web-Dev and Databases
PostgreSQL• MongoDB • GTEx • Turbogears • MySQL
Cloud/Server Platforms
Google cloud platform • HPC • Jetstream •
Bioinformatics software
GATK• Plink • JWAS • FastQC • trimmomatic • bwa • samtools • bcftools • salmon •bowtie • FImpute • MEGAHIT • VMD • Rosetta • Geneious • GROMACS • Snakemake • anvi'o • sourmash •

EXPERIENCE

UC DAVIS, CHENG LAB | Graduate student researcher
AUG 2018 - Present | Davis, CA

IISC | Junior Research Fellow(JRF)
June 2016 – June 2017 | Bangalore, India

- 58 out of 150,000 applicants chosen to be a JRF scholar.
- Performed computational modelling for protein-RNA interaction systems from calorimetry, SPR and kinetic data using VMD
- Inferred strength of casual relationships between transcriptional proteins and RNA

UNIVERSITY OF MALAYA | Summer Research Fellow
May 2014 – July 2014 | Kuala lumpur, Malaysis

- Performed various experimental studies for genetically modifying color trait in orchids, for artificial growth of differently colored orchids, a major industrial requirement in malaysia.

PROJECTS AND RESEARCH

UC DAVIS, CHENG LAB | Graduate student researcher
Jan 2014 – Jan 2015 | Ithaca, NY
Worked with **Hao Cheng** in numerous projects involving modification and implementation of **JWAS**, a bayesian genomic analysis tool for genomic prediction and genome wide association studies in julia.

- Currently working on a research paper comparing different statistical models for GWAS
- Conducted statistical prediction using bayesian regression models for commercial chicken traits such as bodyweight, fat-protein ratio and meat quality
- Performed multiple high-dimensional data clustering of animal genome
- **QTL Workshop**: TA for modern programming in genomic prediction workshop

AI COURSE PROJECT | Team Lead
Jan 2019 – March 2019 | Davis, CA

- Modelled two reward agents based on CNN acrhitecture and Q-learning algorithms
- Performance evaluation using F-1, precision,recall and convergence metrics
- Testing against medium and hard scripted AI's for starcraft II

UC DAVIS, SIEGEL LAB | Lab rotation
Jan 2018 – March 2018 | Davis, CA

- Built Controller functions to handle data formats from PostgreSQL server for front end hosting
- Prototyped new application on VM to analyze new protein folding functionality

ACCOMPLISHMENTS

2016 Junior Research Fellow
2015 top 58th/150000, Graduate aptitude test examination(GATE)
2011 IIT-JEE(top 5000 among 400000 candidates)