Priyanka Bhandary

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**Professional summary**

Efficient self-driven graduate research assistant with success in independent and collaborative research environments. Proficient public speaking skills and presented scientific results at conferences both in-person and virtually. Over 3 years of experience developing software, automating data analysis pipelines and brainstorming innovative approaches to mine unique next-generation sequencing (NGS) data primarily using python and R. Highly adept in organizing scientific meets and leading peers in their academic endeavors.

**EDUCATION**

Ph.D. in Bioinformatics and Computational Biology, minor in Statistics January 2016-Present

Iowa State University (ISU), Ames, IA – GPA: 3.78/4.0

**Masters in Plant Molecular Biology and Biotechnology August 2013-July 2015** University of Delhi, Delhi, India

**Bachelors in Bioinformatics July 2008-May 2012** Padmashree Dr. D. Y, Patil University, Mumbai, India

**KEY SKILLS**

• ML algorithm • Data Visualization • Predictive Analysis • Statistical Modeling • Clustering & Classification • Data Analytics • Data Mining • Quantitative Analysis • Model Development • Pipeline Development • Exploratory Data Analysis

**TECHNICAL SKILLS**

**Programming Languages**: Python (3+ years’ experience of programming in Python), R, Unix

**Libraries**: Pandas, Numpy, scikit-learn, keras

**NGS**: RNA-Seq, Ribo-Seq, CAGE-Seq, ATAC-Seq, ChIP-Seq, DNA-Seq

**Machine learning**: Regression, Classification, Cross Validation, Feature Selection, Feature Extraction

**Deep learning**: Recurrent Neural Networks, Bi-directional Neural Networks

**Predictive applications**: Gene Function Prediction, Protein Secondary Structure Prediction, Protein Post Translational Modification Prediction

**Statistics**: Gene Count Normalization, Hypothesis Testing, Differential Gene Expression

**Software design**: Version Control, Github Deployment, Code Maintainence

**Genomics**: Short-read Alignment, Long-read Alignment, Long-read Generation, Genome Annotation, Genome Assembly, Epigenetic Analysis

**Transcriptomics**: Transcriptome Assembly, Gene Co-expression Analysis

**Genome browsers**: IGV, UCSC Genome Browser, jbrowse

**Databases**: NCBI-SRA, NCBI-GEO, UniProt, Swiss-Prot, Ensembl, PDB, SCOP

**Miscellaneous skills**: High Performance Computing, Docker, Singularity

**Experience**

**Genetics, Development and Cell Biology, ISU, AMes, IA Spring 2019 - Present**

Iowa State University, Ames, IA

* Illustrated the relevance of gene counts to infer regulatory properties of ~20000 genes in *Arabidopsis thaliana* using machine learning
* Conducted a study using RNA-seq expression information to characterize orphan genes functionally in *Arabidopsis thaliana*
* Presented posters at 1 symposium and 2 conferences and delivered a talk at 1 student symposium
* Wrote 3 technical manuscripts for publication in peer-reviewed journals and over 10 abstracts for international conferences
* Improved the structural annotation of >1200 genes in *Arabidopsis thaliana* by employing changepoint detection from short-read coverage data through a collaborative venture

**WORK EXPERIENCE**

**Biology Intern Summer 2011**

Alcove Life Sciences, Hyderabad, India

* Developed a pipeline for producing a better polymer called ‘Polyhydroxy Alkanoates’ which could replace plastics and biodegrades faster.

**Bioinformatics intern Summer 2010**

Silicon Bioinformatics, Hyderabad

* Conducted Insilico Molecular Docking Studies with Antibacterial Activity of isotiazolyl and analogous 3(2H) isothiazolones using various docking softwares.

**LEADERSHIP SKILLS AND SERVICE**

**Community Leadership 2018 - 2019**

**ISU treasurer of Bioinformatics and Computational Biology department Graduate Student Organization (GSO)**

Iowa State University of Science and Technology, Ames, IA

* Participated in organizing the annual BCB symposium
* Supervised monthly meetings and goals for the organization

**Taking the Road Less Traveled (TRLT) Event 2017, 2018, 2019**

**Iowa State University of Science and Technology, Ames, IA**

* Helped in conducting and scheduling the event for girls of ages 12-18
* Developed PowerPoint slides and activities giving an introduction to Bioinformatics

**SELECT PUBLICATIONS** (2 of 6)

1. Bhandary, P., Seetharam, A. S., Arendsee, Z. W., Hur, M., & Wurtele, E. S. (2018). Raising orphans from a metadata morass: A researcher's guide to re-use of public’omics data. Plant science, 267, 32-47.
2. Banerjee, S., Bhandary, P., Woodhouse, M. et al. FINDER: an automated software package to annotate eukaryotic genes from RNA-Seq data and associated protein sequences. BMC Bioinformatics 22, 205 (2021).

**SELECT HONORS/GRANTS**

* GDCB Graduate Student Travel Grant for “ISMB international Conference”, by “ISCB.” $700 (June 2018)