

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	
<ul style="list-style-type: none">• Illustrated the relevance of gene counts to infer regulatory properties of ~20000 genes in <i>Arabidopsis thaliana</i> 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

DEPARTMENT OF BIOINFORMATICS

SPRING 2012- SUMMER 2012

Padmashree Dr. D. Y Patil University, Mumbai, India

- Conducted a Study on OmpC protein causing multi-drug resistance in *Salmonella typhi* due to mutations and its interaction with Lipopolysaccharide
- Presented a poster in the student seminar conducted at the University

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 isothiazolyl 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)