John Reddy Peasari

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Technical Skills: Windows, Linux, Python, R, SQL, BASH, SAS, HPC, C++, Git
NGS analysis: QC tools, alignment tools, quantification tools, DGE, IGV, Bioconductor, samtools, deeptools, bedtools, bcftools, blast (command line), Schrodinger Suite, Pymol, Auto dock, Various biological databases

Professional Experience

Graduate Research Assistant, Saint Louis University **September 2019 – May 2021**
- Working as a graduate research assistant under Dr. Zhenguo Lin on the next generation sequencing data analysis.
- Identifying differentially expressed genes in the Bulk RNA sequencing data of yeast.
- Phylogenetic studies, studying the 3 ' UTR polymorphisms across the genes.

Research Intern, Donald Danforth Plant Science Center **June 2020 – August 2020**
- Employed as a summer research intern by Dr. R. Keith Slotkin to work with deep sequencing data of plants.
- Collaborated with post-doctoral research associates in Keith's lab and successfully executed two informatics projects.
- A program was developed to analyze various dot plots using Python OpenCV to quantify methylation strength.

Scientific Assistant, BhaPra BioSolutions Pvt Ltd **October 2018 – May 2019**
- Worked in the project "Development of mosquito repellent military uniform impregnated with formulations in nano particles".
- Worked under the guidance of Dr. Janapala Venkateswara Rao, CEO & Retired Chief Scientist.
- My responsibilities were: planning, executing experiments, analyzing the results, and presenting to the CEO. Also includes, maintaining SOP's, lab records, paperwork, writing quarterly project reports and guiding a research intern in the lab.

Undergraduate Researcher, SNIST **September 2017 – August 2018**
- Worked as an in the bioprocess laboratory under Dr. Yadavalli Rajasri with algae cultivation.
- Designed multiple experiments, performed, and published my research work.
- Involved with the cultivation of algae and Spirulina for biomass production, lipid extraction and astaxanthin extraction .

Projects

Quantifying RNA directed DNA Methylation Strength (RdDM) based on the methylation pattern.
- Analyzed the methylation dot plots of various transgenic plants.
- RdDM strength was quantified and compared across various Kismeth methylated dot plots.
- A tool was developed using Python, OpenCV, and Jupyter Notebook that will produce various distribution of the dot plot.
- R was used to generate violin and box plots to show the distribution of the RdDM strength.

Measuring poly(A) tail length variation in various transgenic Arabidopsis thaliana plants SOC1 gene
- Analyzed amplicon deep sequencing data from twenty plants generated using ePAT technique.
- Compared poly A and poly T length distributions across the samples.
- Used various next generation sequencing data analysis tools to achieve the final goal of the project.
- Python was used to build automated scripts and R was used to generate various distribution plots.

Identifying 3 ' UTR end coordinates and quantifying read coverage across all the predicted 3 ' UTR from the saccharomyces cerevisiae RNA sequencing data.
- 3 ' UTR coordinates and the read coverage of the of all the genes in saccharomyces cerevisiae were predicted.
- Developed a pipeline using BASH and Python.
- Comparison of 3 ' UTR diversity across 18 different conditions. Working on to optimize the pipeline.

Analyzing Bulk RNA sequencing data of saccharomyces cerevisiae species.
- Successfully implemented pipeline for the bulk RNA sequencing analysis.
- Employed BASH and various NGS tools.
- Used edgeR, Deseq2 to identify various differentially expressed genes.

- **Health care organization database project.**
- **Detection of facial expression in real-time using convolution neural networks.**
- **Optimization of stress conditions in *Chlorella sorokiniana* for enhanced lipid and PUFA content.**
- **Growth of *Chlorella sorokiniana* in a race way pond using grape pomace as a nutrient source for bio diesel.**

Education

Saint Louis University, MO, USA, GPA 3.92 / 4.00 **August 2019 – May 22, 2021**
MS Bioinformatics and Computational Biology

Sreenidhi Institute of Science and Technology, India , GPA 3.70 / 4.00 **September 2014 – April 2018**
Bachelors (BTech) Biotechnology

Publications

1. Phytochemical screening and in silico studies of flavonoids from *Chlorella Pyrenoidosa*, Informatics in Medicine Unlocked.
2. Simultaneous production of astaxanthin and lipids from *Chlorella Sorokiniana* in the presence of reactive oxygen species.
3. Chromatographic analysis of phytochemicals *in Costus Igneus* and computational studies of flavonoids.
4. An siRNA-guided ARGONAUTE protein directs RNA Polymerase V for the first round of RNA-directed DNA methylation.

Accomplishments

- Graduate research assistant and graduate scholarship during my master's at SLU.
- CAMDA challenge - Participated in ISMB 2020 virtual conference and received a fellowship award for ISMB 2020.
- Best student of biotechnology and president of Technical Association of Biotechnology club.

For more information, please click here : johnreddy.me