

EDUCATION

Northeastern University

Boston, MA

Master of Science in Bioinformatics with Omics concentration

Sept 22 - Present

- Relevant course work: Bioinformatics Programming, Computational Methods-1, Computational Methods-2, Statistics using R, Collecting Storing and Retrieving Data, Genomics.

SKILLS

Operating skills:	Linux/Unix, Windows, HPC cluster.
Version Control:	Git.
Programming skills:	Python, BioPython, R, shell scripting.
Bioinformatics skills:	Whole Genome Analysis (WGS), Whole Exome Analysis (WES) Genome Assembly, GWAS, scRNA-seq, ChIP-seq, RNA-seq, DNA Methylation Analysis, Transcriptome Assembly, Differential Gene Expression Analysis, KEGG and Gene Set Enrichment Analysis, String Network Analysis, Phylogenetic Tree Analysis.
Bioinformatics Tools:	Plink, Hail, Trimmomatic, SPAdes, QUAST, Seurat, STAR, HISAT2, FeatureCounts, HTseq, Bowtie2, GATK, Trinity, DESeq2, ClusterProfiler, BLAST, Clustal Omega, BEAST2.
Data Analysis Platform:	All of Us Research, UK Biobank.
Wet lab Techniques:	PCR, qPCR, cDNA Synthesis, Gel Electrophoresis, DNA/RNA Isolation.

WORK EXPERIENCE

Research Analyst I Coop (Bioinformatics)

Jan 24 - Present

Brigham and Women's Hospital - Harvard Medical School

Project 1

Genetic Mimics of GLP-1Ra and SGLT2i Therapy, Heart Failure and Chronic Kidney Disease Outcomes

- Analyzed whole Exome Sequencing data from the All of Us Research Program to evaluate the impact of genetic mimics of GLP1-Ra and SGLT2i therapy on cardio-kidney outcomes.
- Applied elastic net regression and linkage disequilibrium pruning to identify variants linked to lower hemoglobin A1c levels.
- Developed genetic scores to simulate lifelong GLP1-Ra and SGLT2i treatment, encompassing 245,388 participants with varied demographics.
- Demonstrated that higher GLP1-Ra genetic scores significantly reduced the risk of coronary artery disease, heart failure, and chronic kidney disease, with these associations not modified by the SGLT2 inhibitor genetic score.

Project 2

Whole Genome Sequencing in a Diverse Cohort Identifies Genetic Predictors of Response to SGLT2i.

- Analyzed Whole Exome Sequencing data from the All of Us Research Program to identify genetic variants within the SLC5A2 gene that predict response to SGLT2 inhibitors.
- Utilized elastic net regression and cross-validation techniques to identify significant genetic variants associated with improved HbA1c reduction following SGLT2i therapy.
- Assessed the impact of genetic variation on drug efficacy in a diverse cohort, including 80% participants from underrepresented populations.

Computational Biology Intern

May 23 - Aug 23

Carpenter Lab, Indiana University

Integrative Analysis of RNA-seq Data of Breast Cancer: A Bioinformatics Approach for Gene Expression Profiling and Pathway Analysis.

- Utilized Python and Bioinformatics tools for RNA-seq data preprocessing and quality control.
- Conducted RNA-seq alignment and quantification using HISAT2 and featureCounts.
- Performed Differential Gene Expression Analysis, KEGG Pathway Analysis and Gene Set Enrichment Analysis using DESeq2 and ClusterProfiler.
- Visualized results using heatmaps and volcano plots, and effectively communicated findings to the supervisor.

RESEARCH PROJECTS

- Performing Genome Assembly, Transcriptome Assembly, Gene Annotation and Protein Function Prediction of *Escherichia coli* Genome using Bioinformatic pipeline.
- Phylogenetic trees construction for organisms chosen based on similarity of Protein to find conserved regions in gene sequences and to study evolution by constructing phylogenetic trees using Bioinformatic tools.
- Isolation of Chitosan using shrimp shells using biological method.

CONFERENCE / RESEARCH

- Subbaramireddy Remala**, Liming Liang, Amil M. Shah, Leo F. Buckley. "Genetic Mimics of GLP-1Ra and SGLT2i Therapy, Heart Failure and Chronic Kidney Disease Outcomes". Presenting at American Heart Association Scientific Sessions 2024.
- Bhavya Chebrolu, PharmD, MS, **Subbaramireddy Remala** and Leo Buckley, PharmD, MPH. "Whole Genome Sequencing in a Diverse Cohort Identifies Genetic Predictors of Response to SGLT2i". Presenting at American College of Clinical Pharmacy Annual Meeting 2024.

LEADERSHIP SKILLS

Society of Manufacturing Engineers (SME-VIT)

Vice Chair-person Management

May 2018 – May 2019

VIT School of Biosciences and School of Technology

Program Representative

July 2017 – April 2019