

NEEHARIKA BERU

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PROFESSIONAL SUMMARY

Highly driven by ambition and motivation with a strong passion for science and medicine. My curiosity has forged me into an innovative individual to combine knowledge when facing and tackling issues. I am seeking to develop and apply my knowledge of science and statistics through collaboration, internships, volunteering, and clinical research opportunities.

EDUCATION

University of Pittsburgh | Aug. 2022 - May 2026 | Pittsburgh, PA | Bachelor of Science in Biochemistry, Minor in Applied Statistics
Cumulative GPA: 3.7/4.0

Clubs: Phi Delta Epsilon Pre Medical Fraternity, Teaching Assistant for Human Physiology and Genetics, Academic Tutor, Health Occupations Students of America member, Asha for Education Awareness Chair, Girls on the Run Coach

Skills: R, Python, Prism, MATLAB, Computational Biology, Applied Statistics, Biophysical Chemistry, Data structures and algorithms

EXPERIENCE

Computer-Aided Drug Design for a Novel Pathogen | Independent School Research Project | September 2024 - Present

- Developed a comprehensive workflow for drug discovery, from processing genomic data to identifying potential drug candidates while gaining bioinformatics experience to assess protein targets and critically analyze virtual screening results
- Utilized Python and R for quality control of sequencing data, genome assembly, and functional annotation of genes and assembled the pathogen's genome and predicted 3D structures of selected proteins using AlphaFold
- Employed MolModa for virtual screening, performing molecular docking of a chemical library against the predicted protein structures

UPMC Vascular Medical Institute Research | Pulmonary Translational Research Assistant | August 2024 - Present

- Explore the role of platelet-derived factors, particularly epidermal growth factor, in protecting against lung injury in patients with acute respiratory distress syndrome using wet lab techniques
- Analyze the impact of *Candida albicans* colonization on lung injury outcomes and investigate potential mechanisms of injury in critically ill patients
- Engage in data collection, analysis, and interpretation using Python, Prism, and R to support the development of targeted therapies for acute lung injury

Patient Care Technician Trauma Surgery Unit | Clinical Experience | January 2024 - Present

- Conduct routine clinical tasks including monitoring vital signs, performing simple wound dressings, and phlebotomy, tailored to patient care needs through thorough chart reviews of individual diagnoses and surgical histories
- Respond promptly to emergency situations, ensuring efficient communication between the healthcare team and patients
- Assist patients with daily activities such as bathing, walking, and eating, as well as provide emotional support to about 10-12 patients per shift

Infantile Cardiomyopathy Research | UPMC Clinical Research Assistant | December 2023 - Present

- Collected and analyzed medical and genetic data from 2010 to 2024 to identify correlations between genetic mutations and cardiomyopathy presentations through retrospective chart review and genetic data analysis using R
- Evaluated the prevalence of inborn errors of metabolism, sarcomeric/cytoskeletal/nuclear membrane gene mutations, and idiopathic cardiomyopathy from birth to 12 months
- Conducted outcome analysis and applied statistical methods to assess genotype-phenotype correlations and prognosis in affected patients

Penn Medicine Care Ambassador Same-Day Surgery Unit | Volunteer Experience | Princeton, NJ | June 2023 - present

- Fostered positive interactions and provided compassionate emotional support to patients from diverse backgrounds
- Aided high fall-risk patients in walking post-surgery, attended to discharging patients, and collaborated with medical staff to enhance patient care
- Transported patients in pre and post-operation in the Surgical Care Unit to designated rooms and therapy locations

HONORS/AWARDS/CERTIFICATIONS

- Dean's List in the Dietrich School of Arts and Sciences Fall 2022, 2023 + Spring 2023, 2024
- American Red Cross BLS CPR and AED Certification
- Care Ambassador Penn Medicine Princeton Health