SNEHA RAJ

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Objective: Driven and creative third year engineering student seeking to gain real-world experience in medical device product research, development, and entrepreneurship.

EDUCATION

Johns Hopkins University   **Expected May 2025**
B.S. Biomedical Engineering, Minor in Computational Medicine   Baltimore, MD

Relevant Coursework: Linear Algebra & Differential Equations, Systems & Controls, Structure of Materials, Biomaterials I, Intro to Computational Medicine: Imaging & The Physiome, Biomedical Data Science, Computational Cardiology

Skills: Cell Culture, Corrosion Studies, Materials Characterization, GDP, Microsoft Office, Excel, NetSuite, Mandarin (Intermediate), CAD (Creo Parametric, Solidworks), Arduino, GitHub, R & RStudio, MATLAB, Java, Python

Honors/Awards: Dean's List Fall 2021 through Fall 2023, Provost's Undergraduate Research Award 2023-2024

ACADEMIC EXPERIENCE

Weihs Research Group, Biomaterials Division   **August 2022 – Present**
Undergraduate Student Researcher   Baltimore, MD
- Performing corrosion testing on magnesium alloys under conditions simulating the human body to evaluate corrosion rate and tensile strength, focusing on their suitability for high-stress orthopedic applications such as sternal closures
- Utilizing CAD software to design fixtures for wires to be used in MTS tensile machine and characterizing materials with CT
- Presenter at the JHU 2023 Department of Medicine & Whiting School of Engineering Research Retreat, PULSE Seminar Series, and upcoming presenter at the Harvard National Collegiate Research Conference

Tenopedics: Improved Efficiency in Biceps Tenodesis Surgery   **January 2023 – Present**
Design Team Leader   Baltimore, MD
- Spearheading a 5-member team sponsored by JHU to conduct research through literature, clinician interviews, and shadowing on the current landscape of bicep tendon repair instrumentation, identifying potential areas for innovation
- Conducting needs validation, maintaining design history file, and communicating findings with committee members
- Collaborating closely with faculty and clinical mentors; developing action plans and delegating tasks to team members

DiscovEAR: An Endoscopic System for Eustachian Tube Assessment   **January 2022 – July 2023**
Design Team Member   Baltimore, MD
- Collaborated with 5 students and sponsored by JHU to design and validate an endoscopic system for diagnosing eustachian tube dysfunction
- Utilized CAD and multiple 3D printing techniques to create distal attachments for endoscopes, enhancing visualization
- Developed and executed test protocols using bovine and human cadaver models
- Prepared a research paper and engaged with the campus technology ventures office to explore licensing

PROFESSINAL EXPERIENCE

Minaris Regenerative Medicine   **June 2022 – August 2022**
Supplier Buyer Intern   Mountain View, CA
- Streamlined purchasing activities and managed materials for clinical labs, process development, and engineering groups
- Assisted in compliance investigations and finance inquiries, while enhancing inventory tracking systems
- Learned about Quality Control processes, and Documentation and Manufacturing Practices in cell manufacturing

STEM-Away   **June 2021 – June 2022**
Bioinformatics Intern   Remote
- Collaborated with a team of 12 members to develop an R Shiny application enabling microarray analysis without programming expertise
- Co-presented the project to external speakers, and co-authored a paper documenting sMAP's functionality

CAMPUS INVOLVEMENT

JHU MedTech Network   **September 2021 – Present**
President   Baltimore, MD
- Lead a 25-member student team, coordinating committees and executing events for medtech career exploration, encompassing workshops, speakers series, networking sessions, entrepreneurship panels, and community outreach
- Refine event concepts in collaboration with faculty mentors, incorporating their guidance to enhance event impact