

Rithvik Mani

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EDUCATION

University of Illinois at Urbana-Champaign

Bachelor of Science in Computer Science + Bioengineering

Champaign, IL

Aug. 2022 – May 2026

EXPERIENCE

Synthetic & Computational Biology Research Intern

August 2024 – Present

U.S. Army Corps of Engineers, Department of Defense

Champaign, IL

- Researched the effect of electromagnetic radiation on the germination of *Bacillus* bacterial spores
- Developed synthetic biology workflows; designed genetic constructs for microbial systems and laboratory tests
- Conducted biological assays & PCR to test genetic circuits in cultured bacteria in line with ISO standards

Electroencephalogram Monitoring & Analysis Intern

May 2024 – August 2024

Nuronz LLC & Brain and Spine Center Arizona

Phoenix, AZ

- Monitored, recorded, and analyzed brain activity patterns during various procedures to identify any abnormalities
- Collaborated with other primary monitoring technicians to ensure precise data collection
- Troubleshooted and resolved technical issues with EEG equipment to ensure continuous data collection

MenoPatch Research and Development Intern

May 2024 – Present

Equilocalm, Carle Illinois College of Medicine

Champaign, IL

- Assisted in developing MenoPatch, a personalized trans-dermal skin patch to treat menopause symptoms
- Researched and tested different types of hydrogels in vitro and implemented them in the prototype
- Assisted in optimizing prototype for 3D printing production through heat sealing and selection of materials

Medical Value & Access Consulting Intern

June 2023 – Aug 2023

Syneos Health

New York City, NY

- Collaborated with pharma clients in performing market access viability & compliance determination for lead drugs
- Conducted payer research to fine-tune TPP pricing, contracting strategies, and market access research
- Performed competitive market landscape assessments to evaluate fit of the compound in the GI therapeutic space
- Interviewed insurance professionals, developed Discussion Guide, analyzed Non-Alcoholic Steatohepatitis TPP

Summer Researcher

May 2021 – July 2021

UCLA Institute of the Environment and Sustainability

Los Angeles, CA

- Worked with Professor Deepak Rajagopal to research sustainability and feasibility of electric vehicles
- Used R and C++ to perform data analysis and model city's use of electric vehicles
- Performed data analysis with existing data sets with over 100 data points to help find energy solutions

Executive Board, Head of Events

Jan 2023 – Present

Founders - Illinois Entrepreneurs

Champaign, IL

- Student led 501(c)(3) organization focused on promoting and fostering entrepreneurship throughout the Midwest
- Organized events, made connections with over 60 startups, led the Events team, gained \$10,000 in sponsorships

R&D Team Researcher

Aug 2022 – Present

Illinois Medical Advancements through Design and Engineering

Champaign, IL

- Developed CAD and 3D printing to create prosthetics for underserved Carle Hospital patients
- Designed 3 capture and deflection prototypes to prevent stroke from TAVR-induced cerebral embolism

PROJECTS

Stethopy | C++, React Native, Python, Node.js, Docker

Jan 2024 – May 2024

- Developed mobile application and medical device kit for telehealth doctors for stethoscope use over the phone
- Coded back-end functionality with C++, coded app UI with React Native, and cleaned .wav files using Python

PhotoMosaic Generator Using K-D Trees | C++, React Native, Docker

September 2024 – October 2024

- Developed a PhotoMosaic generator in C++, leveraging k-d trees and recursive algorithms for efficient color matching in a 3-dimensional space (LUV color space). Built a k-d tree class with templated dimensions and implemented nearest neighbor search (NNS) to match image tiles based on average color proximity

TECHNICAL SKILLS

Java, C/C++, R Language, Python, MATLAB, AutoCad, OnShape, MS Office Suite, Data Science, Biotechnology, Communication Skills, Medical Devices, Market Research, Product Development, Consulting, Data Structures