

EDUCATION

University of North Carolina at Chapel Hill – Chapel Hill, NC
B.S. in Biomedical Engineering & B.A. in Computer Science

May 2024

- GPA: 3.56
- Relevant Course Work: Foundations of Software Engineering, Algorithms & Analysis, Computer Organization

EXPERIENCE

Ad Astra Diagnostics – Raleigh, NC
Software Developer Intern

June 2023 – May 2024

- Created an AWS-based data backup solution using C# to safeguard almost 10 years of experimental and company data
- Collaborated with engineering, manufacturing, and software teams to explore the option of adding an analytical or machine learning software for the manufacturing line to reduce failure rate of AAD's FDA approved point-of-care device using Pandas, NumPy, scikit-learn, and other related libraries

UNC/NCSU Joint Department of BME – Chapel Hill, NC
Undergraduate Learning Assistant

August 2022 – December 2022

- Led office hours and provided feedback to students in BMME 375 with Dr. Dennis
- Facilitated students' understanding of course content and using Arduino for projects

RENCI (Renaissance Computing Institute) – Chapel Hill, NC
Student Developer Intern

June 2022 – August 2022

- Implemented a C++ wrapper API for IRODS (an open-source data management middleware used by labs across US)
- Learned modern software development practices and Agile software methodology from the IRODS team

PROJECTS

Alternative Approach for Cervical Cancer Detection
Senior Capstone Project

August 2023 – April 2024

- Conducted market research and literature review to create a need profile of methods for cervical cancer detection
- Designed a prototype with consultation from doctors of various expertise to accommodate for 11% of women
- Planned future business steps to take the device to market and make it FDA-approved

Electrocardiogram (ECG) with PVC Detection
BME 522 Course Project

September 2023 – December 2023

- Made an electrocardiogram device using an ESP32 microcontroller and AD8232 development kit
- Incorporated and designed an algorithm to detect PVCs in ECG based on a previously written research paper

Obstacle-avoiding and kinematic-positioning robot
COMP 581 Course Project

September 2023 – December 2023

- Created a PID controller driven robot using Lego Mindstorm components (motor, gyroscope, and ultrasonic sensor) and python to circumvent obstacles and reach a distance in 2D space inputted by the user

Club Management Website
CSXL Lab Improvements

March 2023 – May 2023

- Built a full-stack website with 3 friends using python/fastAPI for the backend and AngularJS for the frontend to make a user-friendly way for students to browse & create clubs and for admins to manage clubs

American Sign Language (ASL) Translator
Finalist – i4 Competition (BME Department at UNC/NCSU)

February 2022 – April 2022

- Pitched an ASL translator using sensors placed on the wrists to facilitate consumer to public interaction
- Earned \$4,000 in funding to create a prototype for aforementioned device using python

LEADERSHIP AND COMMUNITY INVOLVEMENT

PackBionics – Raleigh, NC
Member and Electrical Team Lead

January 2020 – October 2022

- Iterated upon v1 of previous leg prosthetic to integrate an improved gait controller and new mechanical design