

Education

Cornell University, NY 2020 - (expected) 2026

- PhD in Biomedical Engineering | Lewis Lab GRA

GPA : 3.93/4

Salisbury University, MD

2016 - 2020

- BS in Mathematical Sciences | BS in Computer Science

GPA : 3.76/4

Experience

Cornell Graduate Research Assistant May 2020 - Present

In the Lewis Lab I studied imaging, multi-photon microscopy, bone biomechanics, and machine learning while studying for my PhD in biomedical engineering. I also mentored 3 undergraduate students and helped setup the confocal microscope and server in the lab.

Amgen Scholar at Johns Hopkins

May - Aug 2019

In the Vision Lab I compared motion capture data using motion augmentation, dynamic time warping methods, and a custom built Siamese Neural Network Model.

OmniTech Professionals

May - Aug 2017 & March - Aug 2020

As a software engineer, I built the backend database, controllers, and users for MarylandSeatbank. This website was built using Laravel and allows students to take classes offered in the Maryland Community College School System.

National Institute of Standards and Technology

May-Aug 2018

As an undergraduate research fellow, I built a visualization dashboard for NESTOR and presented as the plenary speaker for the Engineering Laboratory at the NIST SURF Conference. I used natural language processing to train a recurrent neural network to replicate spelling errors that are often found in our datasets without sharing private company information to build the dashboard. The dashboard is a Flask App that serves dynamic graphs inside (example code merger with HoloViews on GitHub).

Undergraduate Honors Thesis

For my undergraduate thesis in the honors college at Salisbury University, I performed brain computer interfacing (BCI) between a robotic prosthetic and an open source EEG headset. In order to BCI, I first used the fast Fourier transformation to move our data from the time-space domain into the frequency-amplitude domain. We performed band pass filters on the frequency data and trained a recurrent neural network (RNN) to tag brainwaves to motor imagery. We then used 3D printing to manufacture a robotic prosthetic that interfaces with the headset.

Coding Languages

- ♦ Python, C++, C, Java, Bash, JavaScript, C#, HTML, CSS

Scientific Tools

- ♦ Matlab, Wolfram Mathematica, Minitab, Pandas, Jupyter, Conda, Docker, Numpy, Pytorch, Keras, Tensorflow, Scipy, SciKit-Learn, Matplotlib

Project Management Technologies

- ♦ Monday.com, github.com (git), Slack, Tableau

Web Technologies

- ♦ Neo4J, MongoDB, PHP, SQL, Laravel, Flask, Bootstrap, NodeJS, ReactJS