

Gulnur Rose Bora

Cleveland, OH

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Education

Case Western Reserve University

2022 - 2026

Double major in Computer Science with a concentration in Network Security B.S. and Biochemistry B.S.

- GPA: 4.00
- Relevant Courses:
 - Physical Chemistry, Biochemistry, Organic Chemistry, Molecular Biology, Proteins and Enzymes, Genetics, Metabolic Dysregulation
 - Intro to Operating Systems, Intro to Artificial Intelligence, Data Privacy, Logic Design and Computer Organization, Algorithms, Differential Equations

Lorain County Community College

2020-2022

Associate of Science - Completed during High School through College Credit Plus Program

- GPA: 3.96

Work Experience

Intern - IBM & Cleveland Clinic Discovery Accelerator

May 2024 - Current

Pediatric Cardiology AI Research

Worked with Dr. Tandon to leverage technology for Congenital Heart Disease research

- Developed a Python script using API calls to extract real-time waveform data from Sickbay, significantly improving data collection efficiency through threading and parallel processing.
- Created a digitization algorithm to preprocess EKG images, transforming the PDF forms into a digital format for further analysis with IBM's CNN to predict Cardiac MRI results.
- Collaborating closely with cross-disciplinary teams to ensure the successful integration of AI models in predicting LCOS and Cardiac MRI outcomes, enhancing diagnostic capabilities.
- Participated in IBM Tech Tuesdays and Think Thursdays to stay updated on cutting-edge technological advancements.
- Completed the 2024 Qiskit Global Summer School & Quantum Journey for Cleveland Clinic's Quantum computer

Research Assistant - Computational Biologist

August 2021 - August 2023

Veterans Affairs Hospital

Worked to bridge the gap between biological experiments and computational analysis

- Utilized ImageJ software to analyze stained tissue samples, determining rhodopsin width, opsin quantities, and other relevant metrics
- Conducted cryosectioning of eye tissue samples, followed by antibody staining and microscopic analysis
- Employed statistical analysis to evaluate the significance of findings and validate experimental results

Publication

"Investing the role of Glut1 in rod photoreceptors on the development of diabetic retinopathy"

Coauthored with Dr. Ivy Samuels in June 2023, published in an ARVO journal IOVS Volume 64

Ophthalmic Technician - Data and Image Specialist

May 2021 - Current

Retina Associates

Collaborated with Dr. Miller, President of Retina Associates, in developing diagnostic protocols

- Developed an OCT recognition software using YOLOv5 to identify retinal detachments and recommend the need for additional scans
- Assisted patients with photocoagulation procedures, IOP measurements, dilation, visual acuity testing, and medical charting

Projects

Just A Drop

2018-2020

Aimed to raise \$4,500 to build a Water Well in order to provide over 2,000 Nigerian families access to clean water.

- Developed a Python script using the simplemaps.com API to calculate distances with the Haversine formula, identifying Maiduguri as the optimal well placement location based on the longest path between cities and wells.

Fight for Sight

2020-2021

Fight for Sight aimed to raise \$2,500 to restore the vision of 25 African Children by providing them with Cataract Surgery

Awards

Presidential Service Award

2022

Nominated by Embrace Relief for doing over 300 hours of service

Skills

Software: Microsoft Office, ImageJ, MongoDB, Java, JavaScript, Python, HTML/CSS, C, C++, SickBay platform, YOLOv5

Digital Circuit Design: Verilog, ModelSim

Research Skills: PCR & Analysis, Cryosectioning, Staining, Dissections, EKGs