PENEETA WOJCIK

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EDUCATION

University of Virginia, School of Engineering and Applied Sciences, Charlottesville, VA   *August 2020 - Present*
B.S. Biomedical Engineering, Computer Science and Data Science Minors
- Relevant Courses: Computational Biomedical Engineering, Program and Data Representation (C++, assembly language, Bash), Molecular Data Science, Machine Learning
- Skills: Python, R, Bash, C++, MATLAB, data analysis and interpretation, collaboration and team leadership

EXPERIENCE

Capstone Student Researcher, **University of Virginia,** Charlottesville, VA   *September 2023 - Present*
- Partnering with three undergraduate and two graduate students in Sheffield Lab to develop a search tool for genome region sets using machine learning models trained on ATAC-seq data
- Implementing a transformer machine learning model using PyTorch to convert a natural language search query to relevant genomic region sets
- Developing a publicly-hosted web interface to take in a user-entered query and return genomic regions using the model with optimal performance

Student Researcher, **DAAD RISE,** Erlangen, BY, Germany   *June 2023 - August 2023*
- Collaborated with graduate student at FAU Erlangen campus, used molecular dynamics software such as GROMACS, AMBER, and VMD to simulate five GPCR receptors and associated ligand binding
- Created a 30-page guide on setting up a molecular dynamics simulation for future interns and Masters students
- Gave lightning pitches to summer students at the DAAD RISE conference in Heidelberg

iGEM Student Researcher and Wiki Lead, **iGEM Competition,** Charlottesville, VA   *May 2022 - January 2023*
- Devised a method to detect early atherosclerosis using a lateral flow test strip, engineered an *E. coli* strain to produce antibodies to detect biomarkers of atherosclerosis. Student-led project with a team of 11 other students
- Studied research papers and met with five faculty members to inform project design and find protocols needed to advance project
- Constructed and implemented a team website, led a small team of students to help design site using HTML, JS, and CSS
- Modeled protein structures using AlphaFold on UVA Rivanna high performance cluster
- Gave a stage lecture to four iGEM teams at University of Maryland midsummer iGEM meet-up
- Successfully synthesized two out of three antibodies and induced protein expression in SHuffle bacteria

Chemistry Research Assistant, **Christopher Newport University,** Newport News, VA   *May 2021 - July 2021*
- Characterized and synthesized Bio-Char, a form of activated charcoal made from organic matter, with a team of four summer students
- Provided organic materials for Bio-Char synthesis, performed FTIR and absorption analysis, presented results at Sigma XI Research Symposium
- Findings showed magnetized Bio-Char removed more methylene blue dye in solution than magnetized Bio-Char with yeast added

COMMUNITY INVOLVEMENT

Social Chair, **Rodman Leadership Council,** Charlottesville, VA   *May 2022 - May 2023*
- Arranged 4 large social events per semester for Rodman students at UVA to increase community bonding and networking
- Organized venues and supplies, coordinated with professors and UVA faculty, and kept track of $400 budget in event planning

Rodman Maker Space Intern, **UVA Rodman Program,** Charlottesville, VA   *July 2022 - September 2022*
- Organized electronic microcontroller components and tools to help create a maker space for 68 undergraduate students enrolled in Introduction to Engineering and general student body

Research Chair, **Rodman Leadership Council,** Charlottesville, VA   *January 2022 - May 2022*
- Organized research symposium for 10 undergrad engineering student teams at UVA to showcase research and practice presenting
- Coordinated with six professors for judging, set up venue, gave opening and closing remarks, ushered event

HONORS AND AWARDS
- LMI Data Health Equity Challenge Winner (2023)
- Rodman Scholar in UVA School of Engineering (2021)
- Echols Scholar at UVA College of Arts and Sciences (2020)