

Nikita Lebedz *(he/him/his)*

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Education:

- **University of Michigan | Ann Arbor, MI** **Expected Graduation Date: May 2025**
 - **Major: Biomedical Engineering, Minor: Computer Science** **GPA: 3.915**
 - **University Programs:** Michigan Research and Discovery Scholars (**MRADS: 2021-2023**), affiliate of UROP

Research, Internship, and Project Experience:

- **Research at BioElectronic Vision Lab - Research Assistant:** **December 2022-Current**
 - Stimulating ganglion cells of a mouse retina using new electrode technologies for the sake of future development of retinal prosthesis to cure blindness. Working with calcium imaging for retinal analysis. Performing eye injections and surgery for retinal study. Obtaining single-cell data using patch clamp for mouse cells. Building complex circuits for low latency electrical signal acquisition. Doing computational modeling for signal processing.
- **Biointerfaces Institute Summer Undergraduate Research Internship - Research Assistant:** **Summer 2023**
 - Participated in an internship program under BI (Biointerfaces Institute) in which I continue working with Dr. James Weiland at BioElectronic Vision Lab. Connected with other undergraduate researchers from and outside of UofM.
- **Michigan Synthetic Biology Team (MSTB) - Team Member:** **2023**
 - Designing a novel device for SNP detection using LAMP method for correct diagnosis and treatment against blood clotting that affects black populations significantly more. Designing and building a fluorescence detector. Working with *E. coli* and human cells for SNP detection.
- **Research at Bo Yang Lab - Undergraduate Researcher:** **October 2021-December 2022**
 - Modeled thoracic aortic aneurysm and dissection (TAAD) using tissue engineered blood vessels (TEBVs) in a live rat model. Sutured TEBV meshes with biodegradable material. Worked with primary smooth muscle cells (SMCs) and iPSC-derived SMCs to seed and grow TEBVs to study TAAD in-vivo.

Leadership and Teaching Experience:

- **Biomedical Engineering Society (BMES) - Co-President:** **August 2022-Current**
 - Leading the UM chapter of BMES and its board members. Building an awesome BME community at UofM. Organizing and overseeing events dedicated to research, engineering, and professional development. Connecting the students with the department and outside resources. Working with other College of Engineering organizations.
- **BME 211 Intro to Circuits - Instructor's Aid (IA):** **Fall 2023-Curent**
 - Writing and grading homework assignments, practice problems. Leading a lab section. Hosting office hours.
- **MRADS - Peer Mentor:** **2022-2023**
 - Introduced incoming first-years to UofM and research. Led tours, game nights, and other community-building events for MRADS and my group of eight mentees.

Research and Laboratory Experience:

- Animal rat and mouse training; mouse eye injections and surgeries; retinal dissection
- Cell-attached and Whole-Cell Patch Clamp; retinal stimulation; neural signal processing
- Primary cell culture, upkeep, and passage; iPSC culture, upkeep, and passage
- Creation and upkeep of tissue engineered blood vessels (TEBVs); suture of TEBV meshes
- Symposium presentations for URS, NCUR (National Conference on Undergraduate Research), MRADS, and UROP (Undergraduate Research Opportunity Program)
- Attendance of Naval Academy Science and Engineering Conference (NASEC) on Genetics, 2023

Special Skills:

- **Programming Proficiencies:**
 - Python, Java, C++, MySQL, Docker, Unix, Git, MATLAB, KiCad, Multisim
- **Language Proficiencies:**
 - *English* - primary language
 - *Russian* - first language
 - *Spanish* - moderate proficiency
 - *Belarusian + Ukrainian* - high proficiency