ELEFTHERIA BERES

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EDUCATION

Northwestern University, Evanston, IL — Expected Graduation Date: Jun 2024
Bachelor of Science: Computer Science — Cumulative GPA: 3.99

RESEARCH EXPERIENCE

Undergraduate Researcher: Xenobot Lab — Feb 2023-
Northwestern University Center for Robotics and Biosystems — *Evanston, IL*

Took part in conversations and planning with PI and other lab members to set up Xenobot Lab at Northwestern.

Project Maia Designed and developed platform for simulating rigid-body virtual robots with the ability to grow as they behave in surroundings. Built tool allowing researchers to explore how evolutionarily optimized growth impacts the ability of simulated robots to learn and perform various behaviors. Presented project to Computer Science faculty and students at Summer Undergraduate Research Symposium.

ESRoCKit Developed Julia and Python libraries to help build out the simulated robotics software ecosystem. Wrote Python library to control simulated robots using neural networks and Julia library to create robot definition files for physics simulators.

Undergraduate Researcher: Leonard Lab — Dec 2021-
Northwestern University Center for Synthetic Biology — *Evanston, IL*

PyFlowBAT: An Open-Source Python Package for Flow Cytometry Batch Analysis Conceptualized and developed Python package for accesible, rapid flow cytometry data analysis for synthetic biologists. Collaborated iteratively with Ph.D. students and postdoctoral researchers at Northwestern to add features, ensure accurate results, and improve library accessibility and usability for non-computer scientists. Presented project project goals and progress in Leonard Lab group meetings Lead publication writing for PyFlowBAT paper—paper writing in progress. Presented work at the EBRC Annual Meeting 2023.

POSTERS

1. **Beres E**, et al. PyFlowBAT: An Open-Source Software Package for Performing High-Throughput Batch Analysis of Flow Cytometry Data. Poster presented at: EBRC Annual Meeting; 2023 Jun 5-6; Evanston, IL.

HONORS AND AWARDS

Summer Undergraduate Research Fellowship — Summer 2023
Northwestern University Department of Computer Science — *Evanston, IL*

Summer Undergraduate Research Grant — Summer 2022, Summer 2023
Northwestern University Office of Undergraduate Research — *Evanston, IL*

High Honors — Fall 2022-
Northwestern University McCormick School of Engineering — *Evanston, IL*

TEACHING

Peer Mentor: GEN_ENG 205-1: Engineering Analysis 1 — Sept 2023-
Northwestern University Department of Electrical — *Evanston, IL*

Hold five hours of office hours per week. Lead discussion-style lectures over weekly MATLAB homework assignment with a focus on understanding computational algorithm writing. Teach students theoretical basis of linear algebra and computational algorithms in engineering and how to practically translate theoretical understanding to written code.

Peer Mentor: BMD_ENG 220: Introduction to Biostatistics — Sep 2022-Dec 2022, Sep 2023-
Northwestern University Department of Biomedical Engineering — *Evanston, IL*

Hold two weekly office hours virtually and in person. Grade student exams and weekly problem sets. Facilitate students understanding of statistical methods for biomedical engineering experiments. Covered foundations of probability and statistical tests. Offered opportunity to return to position for second quarter.

Peer Mentor: DATA_ENG 200: Foundations of Data Science — Jan 2023-Mar 2023
Northwestern University Department of Computer Science — *Evanston, IL*

Held three weekly office hours and answer student questions on online course platform. Guided student learning of data analysis and visualization and computational problem-solving for data science. Taught students Tableau, Jupyter Notebooks, NumPy, SciP, and Pandas.