

# SRUJAN YAMALI

Newark, DE · srujyama25@ncs.charter.k12.de.us

## EDUCATION

---

**Newark Charter School**  
Full AP Coursework

GPA: 4.6  
Sep 2021 - May 2025

## EXPERIENCE

---

**University of Delaware**  
*Research Associate*

Newark, DE  
June 2023 - Present

- Developed algorithms using computer vision to understand *Drosophila melanogaster* mating behaviors.
- Did research around understanding the neural architecture and principles involved in the transformation of sensory stimuli into reward perception in regards to *Drosophila melanogaster*.

**Childrens Hospital of Philadelphia**  
*Assistant Bioinformatician*

Philadelphia, PA  
Nov 2023 - Present

- Developed efficient high-throughput sample preparation methods and streamlined metagenomic DNA sequencing data analysis for microbial populations.
- Found statistical significant data in genomes using data structures and algorithms.

**Cornell University**  
*Research Intern*

Ithaca, NY  
March 2024 - Present

- Developed machine learning models to analyze behavior in coral fish populations.
- Used those machine learning models to make YOLO models.

**Princeton University**  
*Independent Researcher*

Princeton, NJ  
September 2023 - Present

- Working on a research project with Gertrud Schupbach about *Drosophila* centrophobism behaviors.
- Developed experimental models to capture centrophobism data and novel ways to process them.

**Perelman School of Medicine**  
*Research Assistant*

Philadelphia, PA  
August 2023

- Handled tasks involving protein structural analysis including protein purification and crystallization.
- Developed cell cultures using inverse PCR for point mutation in *E. Coli*.

## PUBLICATIONS & PROJECTS

---

**Mating Behaviors of *Drosophila melanogaster***

June 2023 - Dec 2023

Github link: <https://github.com/SomeOne1Random/FlyFlirt-Mating-Moves-Monitor>

- Developed a program to track fly mating latency and duration.

**Centrophobism Behaviors of *Drosophila melanogaster***

Sept 2023 - Present

Github link: <https://github.com/SomeOne1Random/Drosophila-Desire-Detector>

- Developed a program to track thigmotaxis and centrophobism behaviors.
- Wrote a research paper on the findings.

**Heat Map of Genetic Analysis**

Dec 2023 - Present

Github link: <https://github.com/SomeOne1Random/HeatMapAnalyzation>

- Developed a program to find statistically significant changepoints in gene sequences.
- Found regions that had similar genes within a microbiome to find bacteria, fungi and viruses.

## SKILLS

---

Programming Skills: Python: OpenCV, Matplotlib, Numpy, Pandas, PyQt6; Wolfram Mathematica; Rust  
Lab Skills: Gel Electrophoresis, Polymerase Chain Reaction, Mutagenesis, Cell Culturing  
Chemistry Skills: Pippeting, Protein Purification, Centrifugation techniques, Bacterial Transformation

## AWARDS

---

**Semi-Finalist: USA Biology Olympiad**

USABO committee

Semi-finalist in most prestigious Biology Exam

March 2024

**First Place Category Delaware Valley Science Fair**

Delaware Valley University

First place in behavior category at the most competitive regional science fair

April 2024

**Second Phase in Biogenesis Biology Division**

Biogenesis committee

Scored in the top nine percent in general biology exam

Nov 2022