Bhargav Srinivasan

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EDUCATION

University of Maryland (UMD), College Park, MD **GPA: 3.71**
Bachelor of Science in Computer Science, Bachelor of Science in Biological Sciences **May 2027**

- *Relevant Coursework*: Object Oriented Programming II, Discrete Structures, Introduction to Linear Algebra, Calculus III, Principles of Ecology and Evolution, Principles of Molecular & Cellular Biology
- *Interests*: Bioinformatics Research and Computational Biology

SKILLS

Languages: Java, Python, R, C, C++, HTML, MATLAB, Assembly AVR, OCaml (In Progress)
Programming/Computing Packages: Numpy, Scipy, Jupyter/Colab, Git, FastQC, Microsoft Suite, Segment Anything

PROJECTS

Bioinformatics Pipeline: Full-Stack Developer, Fritz Lab UMD August 2024 – Present

- Utilized public sequencing data of Helicoverpa zea to locate the geographical source of pesticide resistance genes.
- Scraped public **.fastq** files from **SRA** to eventually find read depth of the CYP333B3 gene in H. zea populations.

Host Pathogen Evolutionary Dynamics Model: Full-Stack Developer, Bruns Lab UMD January 2024 – Present

- Created a deployable population dynamics model in **Python** using **Matplotlib** and **NumPy** libraries.
- Coded and ran an optimization of differential equations to simulate pathogen evolution in a biological system.
- Rastered variables to compare model results to laboratory, field, and greenhouse results.

RELATED EXPERIENCE

Biological Science Aid, **US Department of Agriculture**, Beltsville, MD April 2024 – Present

- Research assistant for the Genetic Improvement of Fruits & Vegetables Laboratory at the USDA.
- Applied plant breeding methods to generate superior strawberry cultivars and used novel evaluation practices for fruit quality, flavor, and disease resistance.
- Deployed Segment Anything and DINOv2 computer vision models on Unitree Go2 robotic dog to detect diseased strawberry plants, traverse through fields, and identify stray animals.

Research Scientist, **University of Maryland Gemstone Honors Program**, College Park, MD August 2023 – Present

- Applied existing computer vision libraries to analyze and quantify the social behavior of Malawai Cichlids.
- Planning on creating a computer vision algorithm specifically to monitor the health and behavior of fish in different environmental conditions, social situations, and through breeding cycles.

Teaching Assistant Intern, **Dulaney High School**, Timonium, MD August 2022 – May 2023

- Taught Introduction to Object Oriented Programming I classes to high school students.
- **270 Hours** spent working on software systems, lesson planning, grading, and project debugging.

PUBLICATIONS

Pain Management 2024: Artificial intelligence and pain management: cautiously optimistic September 2024

- **Bhargav Srinivasan**, Archana Venkataraman, Srinivasa N Raja; Editorial regarding potential opportunities and limitations of artificial intelligence in assessment, diagnosis, and management of pain.