

---

# Giacomo Pugliese

908-4013-3506

[giapug24@bergen.org](mailto:giapug24@bergen.org)

**Github:** <https://github.com/GiacomoPugliese>

## EDUCATION

**Bergen County Academies // 4.0 GPA // 1560 SAT**

### Relevant Coursework:

- **Computer Science:** AP Computer Science A, Front End Web Design, SQL, Systems Programming, Machine Learning, Web Apps, Harvard CS50
- **Medicine:** Pharmacology, Epidemiology, Neuroscience, Biotechnology, Nanotechnology, Microscopy, Cell Biology, Bioethics

## EXTRACURRICULARS

### Research Intern at Dantas Lab at Washington University 2022 - Present

- Optimizing the implementation of PARFuMS, a computationally based pipeline for the assembly of short-read sequence data from functional selections
- Working to utilize the model in a high-throughput functional metagenomic approach to characterize exchange of antibiotic resistance genes between environmental bacteria and clinical pathogens

### Code for Charity 2022 - Present

- Lead developer of the HACA project, or Haitian Alliance for Community Action, and worked with developers to update their website UI and increase mobile responsiveness
- Coached new members through workshops involving introductory coverage of HTML, CSS, and JavaScript to design web applications

### Emergency Medical Technician 2022 - Present

- Completed 220 hours of coursework at Bergen County EMS Training Center involving cardiac, airway, medical and traumatic emergencies, and volunteered in the ER department of Hackensack hospital
- Worked with patients presenting with various conditions, and employed skills in patient assessment, resuscitation, oxygenation, drug administration, splinting, and more

### Provita Pharmaceuticals 2022 - Present

- Project lead of Scaffold Aid at Provita Pharmaceuticals, the only student run pharmaceutical company in the world
- Designing a functional matrix capable of three dimensional culture and differentiation of preosteoblasts for in vivo bone tissue engineering techniques
- Presented work to scientists and officials at Rutgers Medical School, Englewood Hospital, and FDA

### Surgical Intern at Englewood Dept. of Vascular Surgery 2022

- Operated on live mice and successfully performed procedures including a splenectomy and carotid cannulation using microligation, suturing, and oral gavage techniques
- Authored a paper on establishment of a successful experimental model to study the effects of postoperative ileus, evaluated on metrics of gastric emptying and intestinal transit data

### Public Health Intern at Leadership Initiatives 2021

- Founded a new COVID awareness campaign within the organization to spread information about the disease and preventative strategies
- Raised \$1300 towards the campaign through fundraising, and collaborated with healthcare professionals in Bauchi, Nigeria

## ACHIEVEMENTS

- Gold Division in United States Computing Olympiad (Top 700 Worldwide)
- 1st place in New Jersey for HOSA Medical Innovation
  - Designed a machine learning integrated tool for EMS with computer vision and intelligent diagnostics
- 4th place nationally for Anatomy & Physiology at Brown Science Olympiad
- 6th place nationally for Cell Biology at Brown Science Olympiad