

# Giacomo Pugliese

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**Portfolio:** <https://giacomopugliese.github.io/PortfolioSite/index.html>

## **EDUCATION**

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

**Relevant Coursework:** AP Computer Science A, Front End Web Design, SQL, Systems Programming (Assembly, C programming, Sockets & Threading), Machine Learning, Web Apps with Databases, Harvard CS50

**Languages:** Python, Typescript, Javascript, HTML, CSS, MySql, Java, C

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## **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
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## **EXTRACURRICULARS**

**Bioinformatics Research Intern at Dantas Lab at Washington University 2022 - Present**

- Optimizing the implementation of PARFuMS, a computationally based pipeline originally written in Perl for the assembly of short-read sequence data from functional selections
- Utilizing 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 Lead Developer 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

**ProVita Pharmaceuticals Webmaster and Project Lead 2022 - Present**

- CTO and Project lead of Scaffold Aid at ProVita Pharmaceuticals, a student run pharmaceutical company ran from Bergen Academies
- In charge of maintaining website, and leading a team of four scientists to design 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

**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

**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