

ANWESHA GHOSH

Apply biology or biophysics
through computer science

EDUCATION

August 2020 - Present

Dublin High School, CA

*Engineering Academy
Varsity Student-Athlete and
Athletic Scholar*

Weighted Current GPA: 4.83

*AP Physics 1, AP Biology, AP
Calculus AB, AP Computer
Science Principles, AP
Environmental Science, AP
Seminar, AP English Language
& Composition,
Honors Digital Electronics,
Honors Principles of
Engineering*

RELEVANT SKILLS

Growing algae “scum ranching”

Arduino / C++

HTML & CSS

Linux / Bash CMD

Python Certified

RESEARCH

July 2022–March 2023

Arduino-Controlled Photobioreactor Algal Microbial Fuel Cell with Conveyor Belt

Cathode for Boosted Biofilm Growth and Heavy Metal Removal - *Stockholm Junior Water Prize, U.S. Navy & Marine Corps Award, Alameda Water Districts Water/Wastewater research award, 1st Place Alameda County Science Fair, International Science Fair Finalist, Amgen BioGENEius Challenge Finalist*

- Learning: 135mV of voltage generated and 85% heavy metal removed by the algal-boosted microbial fuel cell with a modified IoT photobioreactor styled cathode; Modified cathode with conveyor belt as electrode to boost biofilm growth to increase bioremediation & voltage

September 2020–February 2021

Arduino System for monitoring voltage and water quality of a Dual-Chambered Microbial Fuel

Cell - *Project Planet Special Award, 1st Place Alameda County Science Fair, Honorary Mention California Science Fair*

- Learning: Arduino system measured peak 85 mVs generated by the microbial fuel cell, verified by a multimeter; The arduino monitored MFC through pH and turbidity; dual chamber model with PVC salt bridge successfully created a polarity generated by the bacterial respiration

PROFESSIONAL EXPERIENCE

Amplo Global Inc., New Jersey - Management Analyst Summer Intern *June–August 2020*

- Provided relief in Sunderban after Cyclone Amphan by building model community at the Hingalganj block with first-aid training, school wide meal systems, gardening/farming in the hypersaline environments (rice grains that can be grown the saltwater flooded rice paddies), digging wells to access freshwater and temporary tents for students/families

Eta Carinae Nonprofit, Dublin - Founder *June 2020–Present*

- Bringing creativity through STEM to Title 1 schools with workshops teaching skills such as how to use power tools, hydraulics and woodwork
- Partnered with Antioch schools to donate books and clothes as well as helped teach basic online cybersecurity to Dublin Senior Center

Trivalley CoderDojo, Livermore - Leadership Council & Python Mentor *August 2016-May2022*

- Maintained club from leadership position of 150 people learning different aspects of online skills on a weekly basis across different Bay Area venues
- Created curriculum to teach a group of 30 students Python over a school year

AWARDS and EXTRACURRICULARS

- 8 years of Destination Imagination (global STEM competition) where I used Arduino to build a drone, human sized bird wings, automated blooming flowers and motion censored curtains -- 4th/70 Place Globals, 4x Global Finalist, 3x Da Vinci Award for creatively bringing awareness to gun violence in story-telling format
- 3 years of Science Olympiad -- Secretary and placed at States with three events: Codebusters 5th/40 & 4th at MIT Invitational, Water Quality 6th/40, Green Generation 12th/40
- 3 Years of Varsity Track and 1 Year of Jumps Captain -- 400M, Triple Jump, Long Jump