

## **Edward Garcia**

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### **EDUCATION**

University of California Santa Cruz	2019 – June 2022
B.S. Computer Engineering	3.20 GPA
Pasadena City College	2015 – June 2019
A.S. Mathematics, Physics	3.00 GPA
A.A. Natural Sciences, Engineering and Technology	

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### **WORK EXPERIENCE**

**Baskin School of Engineering** – University of California Santa Cruz      September 2021 – June 2022  
**Undergraduate Tutor**

- Prepared one hour-long tutoring sessions for about 4 hours a week.
- Responded to logistics emails from students, professors, other tutors and other employees.
- Attended lectures and took detailed notes to help prepare for session planning.

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### **PROJECTS**

#### **Fully Autonomous Robot Mechatronics Capstone**

- Was part of a three-member mechatronics team tasked with programming and prototyping a fully autonomous robot from scratch within a five-week time constraint.
- Robot was able to detect 2 kHz signals emitted from towers, traverse a field while circumventing obstacles to reach the tower, and deposit a ping pong ball into the correct side of the tower by detecting an active track wire.
- Designed and soldered circuits on perf boards including a 2nd order Butterworth filter, beacon and track wire detectors, and power distribution board containing a 3.3V and 5V regulator and a 1.65V split rail buffer to supply a virtual ground.
- Involved interfacing with various sensors such as tape, bumper and IR sensors.
- Programmed in C on a PIC32MX320F128 microcontroller and features a fully functional hierarchical state machine for event servicing.
- Helped create and troubleshoot libraries for sensor and motor interfacing.
- Oversaw the project's embedded software aspect.

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### **RESEARCH EXPERIENCE**

**Pasadena City College** – Pasadena, CA      September 2016 – June 2019  
**Undergraduate research assistant**

- Researched self-assembly DNA nanotechnology.

- Undergraduate research assistant for Dr. Jillian, Blatti, Ph. D under the Catalyst Early Career Undergraduate Research Experience (eCURE) program at Pasadena City College.
  - Worked in a team of around 6 other students where we shared our findings and discussed ideas in order to come up with solutions.
  - Learned to prepare wet samples and operate an atomic force microscope (AFM) to view samples.
  - Modeled DNA nanostructures using computer aided design tool.
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## **SKILLS**

C programming language, C++, SolidWorks, laboratory safety and equipment, teaching, digital design, session management, team building, communication, technical writing, embedded programming, rapid prototyping, time management, Sensor interfacing