Robert Garcia

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Education

Harvard University Ca

Cambridge, MA

S.B. in Engineering Sciences (Mechanical and Materials Sciences and Engineering)

May 2023

June 2019

Coursework in Physics (Mechanics and Relativity, Electricity and Magnetism), Computer Science,

Electrical Engineering, Engineering Design Seminar, Solid Mechanics, Mechanical Systems, Materials.

Overall GPA: 3.55; Concentration GPA: 3.71.

Design Project: Aerobic Charge: Converting kinetic energy during exercise to electrical charge.

Hartford High School Hartford, CT

Salutatorian. GPA: 97%. Honors Science Program. 1st place winner, Robot Challenge.

Engineering Research Experience

Harvard University Laboratory for Nanoscale Optics

Cambridge, MA

June – Aug 2021

• Optimize the dry etch recipe for titanium dioxide and polycrystalline diamond thin films.

- Fabricate photonic devices (ridges, ring resonators, microdisks, photonic crystals) in TiO2 and polycrystalline diamond films.
- Characterize the fabricated photonic devices using a transmission setup.

California Institute of Technology Nanotech Research Center

Pasadena, CA

Research Experience for Undergraduates Intern

June – Aug 2020

Project: Microfabrication of Thin-film Heaters to Simulate Hotspots.

- Fabricated devices for testing the effectiveness of a nanoscale patch used to cool down hotspots on microprocessors.
- Utilized cleanroom facilities to create devices that contain a hotspot heater and temperature sensors to simulate heat generation.

Additional Experience

Harvard School of Engineering and Applied Sciences

Cambridge, MA

Course Assistant

Research Assistant

Sept 2021 – present

• Hold weekly office hours, providing tutoring and problem set instruction for students in Computer Science 50: Introduction to Computer Science.

Leadership and Activities

Harvard College Engineering Society, Vice President

Sept 2021 – present

- Organize monthly meetings and activities for the engineering community at Harvard.
- Host guest speakers, manage listsery, and plan events.

Skills

Laboratory: Cleanroom fabrication experience, including photolithography, e-beam lithography,

metallization, thin film deposition, etching, metrology, SEM imaging.

Technology: Knowledge of HTML, CSS and programming in C, PHP, JavaScript.

Experience with MATLAB, SolidWorks, Microsoft Office Suite, Adobe Creative

Suite, Google SketchUp.

Languages: Spanish (intermediate), German (beginner).