

Edan Bash

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STEM ACTIVITIES

JPL Space Academy(Grade 11) - This program is an exclusive opportunity for high school students to work at the Jet Propulsion Laboratory. The goal was to build a launcher that only used elastic energy to thrust a rocket as high as possible. The rocket also had to be holding a functioning light bulb and video camera. During the build process, I practiced woodworking, built circuits, and created a mechanical system to steady the projectile before launch. My team and I also presented our weekly progress to demonstrate the importance of business practices and public presence for a science-based company.

Team 589 Robotics(Grade 11-12) - I create command-based code with the Java and C# programming languages, design circuit boards for optimal robot performance, and make 3D models of robot parts using computer software. My team and I attended the First Robotics Tournament in Pomona and I helped make repairs when the robot malfunctioned in competition.

PDM Internship(Summer Grade 12) - I traveled to Lisbon, Portugal in order to work for a software company that focused on cybersecurity and gaming. Specifically, I worked on developing the virtual reality sector of the company by exploring programs like Unity and Unreal Engine to make 3D environments. I also learned how professional developers work on a project using code-sharing software and planners.

UCI COSMOS(Summer Grade 12) - I was accepted into the Engineering for Land, Air, Space program at the University of California, Irvine, which has a less than 10% acceptance rate. In the classroom, college professors taught me about rocket launch physics, alternative energy, robotic systems, and flight aerodynamics. In the lab portion of the program, I built a remote-controlled, 4 foot by 4 foot, functional airplane from scratch, equipped with control surfaces and winglets. At the end of the program, we presented our findings on energy efficiency and plane stability based on our group's design.

Crescenta Valley Science Bowl Team(Grade 11-12) - I was accepted onto the team after a competition-based selection process and then went on to master the physics and math curriculum through independent study. I discovered quick mental practices that allowed me to answer questions with speed and accuracy. Later, I collaborated with teammates at the regional competition at JPL.

Software Developer(Grade 11-12) - After taking the AP Computer Science class, I helped my teacher revamp the AP curriculum. In an attempt to make the class more graphics based, I created my own labs that students would follow in order to build up to a larger, arcade-style game. I deeply researched the Java programming language and used the GitHub platform to organize all of my progress. Here is the final product currently being used in the AP Computer science class at my school:

<https://github.com/gregneat/AREPO19>

App Building(Grade 11) - I have built several apps for the Google Play Store using Android Studio. I built my first app in a class-wide Hackathon that challenged students to create a trivia game using the gyroscope feature on the phone (similar to Heads Up). My second app, created on my own initiative, is a physics review app that helps students study for the AP exam. It includes original lesson summaries, equation solvers, homemade practice questions, along with solution manuals, and multiple choice quizzes.