Lego Robotics at College Park Academy

Dylan Uecker
College Park Scholars – Science & Global Change Program
Computer Science
duecker@terpmail.umd.edu
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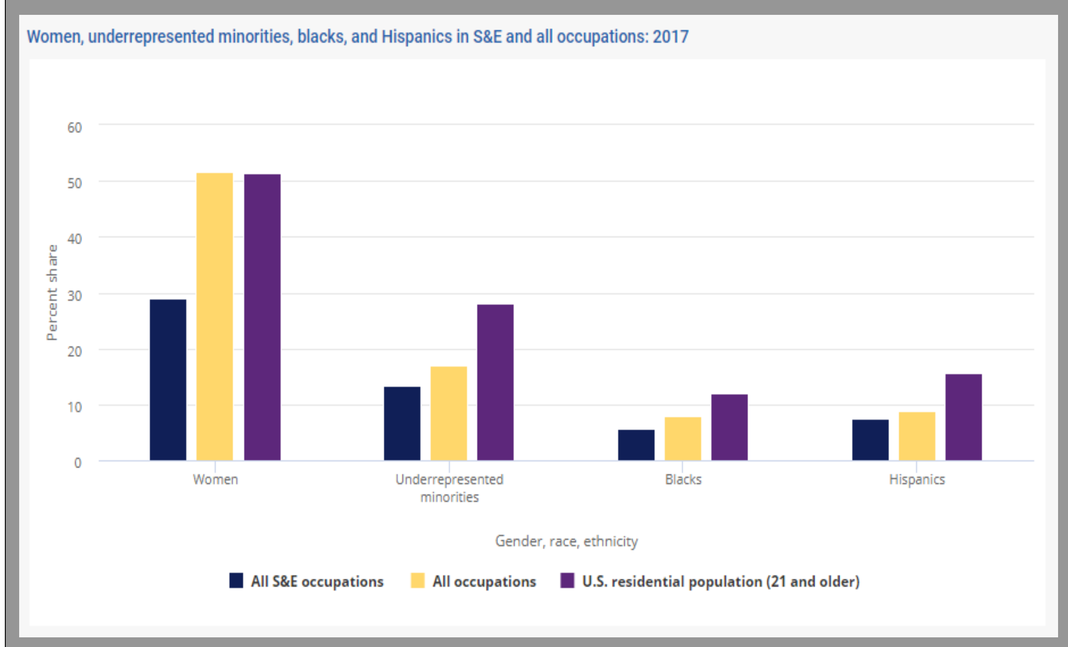
Activities:

- Met on Zoom every Thursday for an hour with my partner and I's student
- We first focused on building the robot, then getting comfortable with coding the robot, and finally coding the robot to complete our grand challenge – an obstacle course
- Examined and discussed the issues facing STEM education



Above is from the S&E indictors 2020 report. It shows the under presentation of women and minorities in the science and engineering workforce. Found here.

Site Information:

College Park Academy

5751 Rivertech Ct, Riverdale, MD 20737

Timothy Reedy

Mission: "Our dynamic school that features blended learning will enable students to earn up to 60 college credits (including credits at the University of Maryland) in Prince George's County by High School Commencement."

Issues Confronting Site:

This semester was unique in that the entire Lego robotics experience was virtual. The number of students dropped as a result. There were also some issues with the students being on time and the students being able to effectively communicate through Zoom.

Introduction

My practicum project was teaching Lego robotics to middle schoolers at College Park Academy, while examining the disparities found in both STEM education and the workforce.

The Droid Bot 2.0, pictured here, was the robot build my partner and I did with our student. Found here.

Impact:

This experience really opened my eyes to the inequalities prevalent in STEM education and in the STEM workforce. Something needs to be done to make both aspects of STEM more inclusive and diverse. One way is to provide a free STEM experience to diverse middle schoolers, aiming to generate an interest in STEM within them (what we did in this class). With that interest, the students are more likely to pursue higher education in a STEM field, and then with that education, join the STEM workforce.

Future Work:

As I progress through my computer science degree and career, I would like to volunteer for programs like this. I think they are extremely effective at generating an interest with students for STEM. In fifth grade, I was apart of a robotics club like this one, and it really made me fall in love with computer science.

Acknowledgments:

I would like to first thank Dr. Holtz and Dr. Merck for my two years in the Science and Global Change Scholar's Program. I also want to thank Tim Reedy for administering CPSS 240, the class which gave me this practicum opportunity. Finally, I want to thank the students at College Park Academy who were involved with our program.