



Teaching High School Robotics Students

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College Park Scholars – Science & Global Change Program

Aerospace Engineering

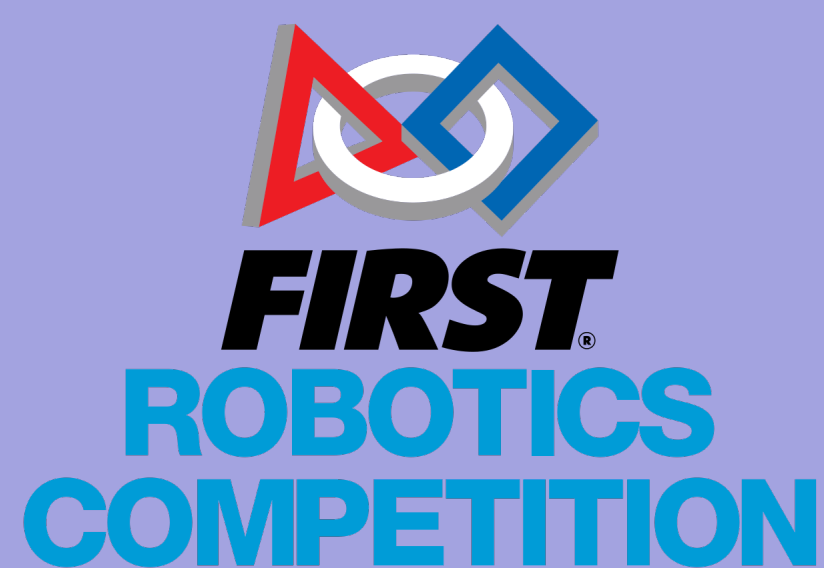
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Introduction

My practicum consisted of completing a service-learning project in which my fellow students and I taught students valuable engineering skills while studying the importance and implications of STEM education in modern society.



Top: Early Model of one group's FIRST Robot. Right: Outside of Parkdale High School Left: FIRST Robotics Logo

Site Information:

Parkdale High School

6001 Good Luck Road, Riverdale Park, MD

Timothy Reedy

Our goal at Parkdale High School was to provide free STEM education services to underprivileged students, while analyzing certain biases that exist in STEM education.

Issues Confronting Site:

Overall, since Parkdale High School is only a few minutes down the road from UMD, it was pretty accessible. There were some challenges meeting with our students, as some days after-school activities were cancelled. Since this was an afterschool club, some students also had conflicts with other clubs or organizations.



Activities:

- Traveled to Parkdale High School once a week
- Instructed students on engineering strategies such as brainstorming, initial design, CAD and prototyping
- Guided students on building initial robot design for FIRST Competition
- Studied the impact of societal biases that exist in STEM education

Impact:

Perhaps my biggest takeaway from this experience is the insight that while STEM education is essential for our future generations, it is not equally offered to various groups. I left this experience with an understanding that much more work needs to be done to narrow the education gap between racial and socioeconomic groups and provide everyone with equal opportunity to contribute to the upcoming STEM-based society.



My fellow scholars and I with our group of high school students.

Future Work:

Through this experience, I have had a greater appreciation for educators in STEM and would like to pursue more opportunities to teach and volunteer in the future. Having done robotics for years, I find value in passing on what I've learned to the next generation of young aspiring engineers. I feel very grateful for this opportunity and will never forget to do my part in providing all students an equal opportunity to a STEM education.

Acknowledgments:

I would like to thank everyone involved in this experience, including Dr. Merck and Dr. Holtz for guiding my learning throughout my scholars experience. In addition, I would like to thank Timothy Reedy for organizing and teaching this class, as well as my fellow scholars group-mates. Finally, I would like to thank our classroom teacher, Karen, and all of the students at Parkdale High School