



the stars
challenge

Coding and Robotics
Winter 2019



“All students should have the opportunity to learn how to program. Computer science is the basis for modern day creativity and expression.” – Anne Wojcicki, CEO and Founder 23andMe

As a STEM educator I have the daily opportunity to observe how students perceive computer programming. Some think of coders who sit by themselves at a computer all day, but my teaching assistants (Nia, Brianna, Katrina, Laura and Rishi) and I wanted to demonstrate how coding can be a fun and interactive experience. We began our journey by introducing basic coding concepts and used them to build Android Apps using MIT App Inventor. Our next step was to apply that knowledge to programming in Python, one of the most popular coding languages used by students and professionals today. We then entered the realm of robotics, where you used your coding skills to access and control various sensors and actuators, culminating in the remote control of a VEX robot. After having an exciting time playing a VEX-based robot game, we delved into the world of Arduino, where you not only constructed circuits using breadboards, wire, resistors, a rangefinder and LEDs, but learned how to control them via programming. The capstone experience provided you the opportunity to choose from Scratch, Python, VEX, Arduino, or a combination thereof, and develop your own idea that you could show your friends and family on the Stars Challenge Celebration Event!

I encourage you to share what you have learned and that you continue to pursue your interest in the fields of coding and/or robotics. As stated in the quote above, “Computer Science is the basis for modern day creativity and expression.” Just remember that you don’t have to do this by yourself! Some of the best (and most fun!) journeys are taken with others!

In closing, thank you for a wonderful class! Nia, Brianna, Katrina, Laura, Rishi and I had a phenomenal time working with and learning from each of you!

































