



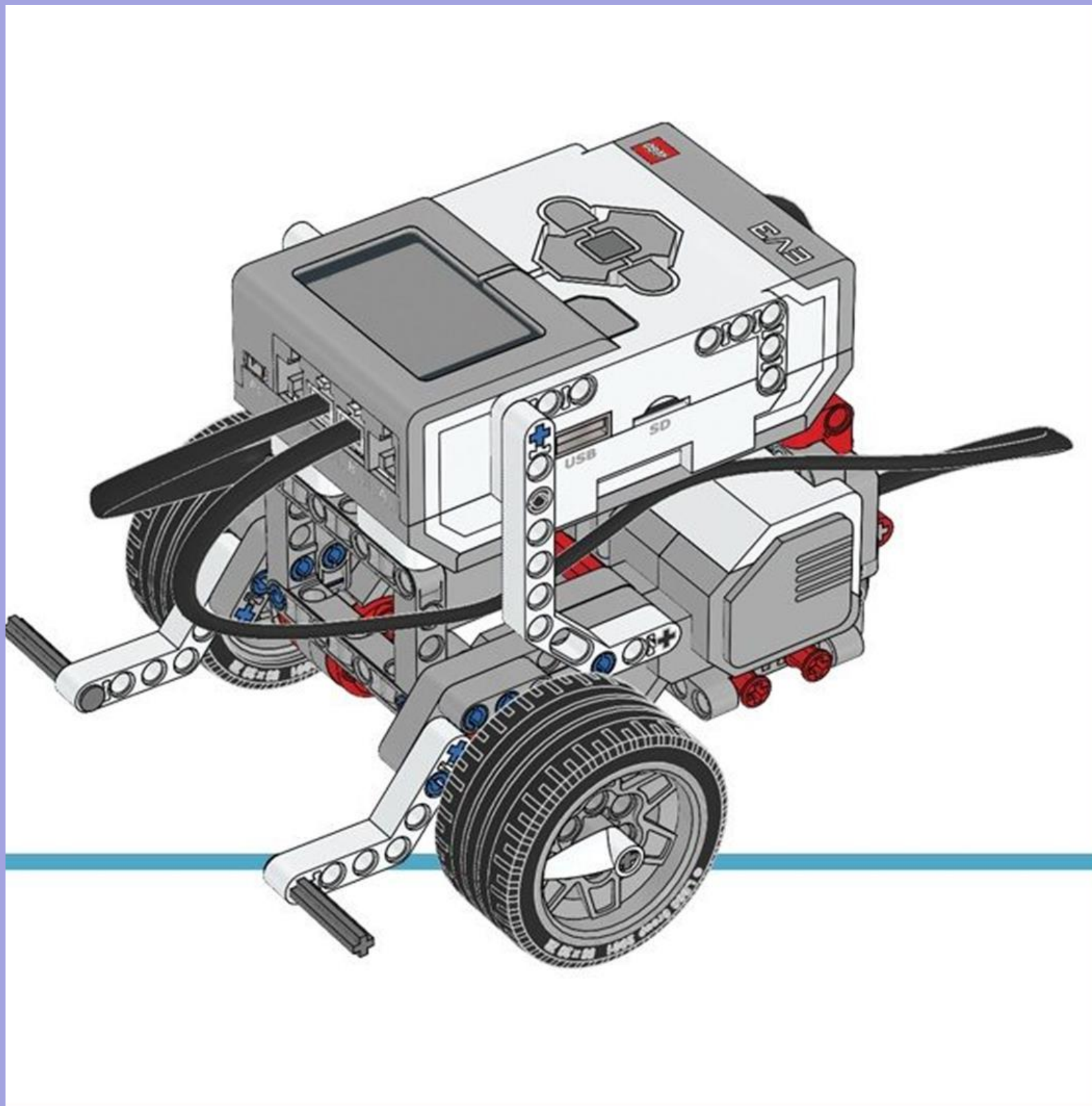
Robotics Service Learning Class



Vinomie Galagama
 College Park Scholars – Science & Global Change Program
 Mechanical Engineering
 vgalagam@terpmail.umd.edu
 College Park Scholars Academic Showcase, April 30, 2021

Introduction

The goal of this class was to work with College Park Academy (CPA) students and help facilitate a learning environment where they get excited about robotics. We worked with Lego EV3 kits to come up with a robot design and taught block coding so that they can have their robot complete a challenge of their choosing.



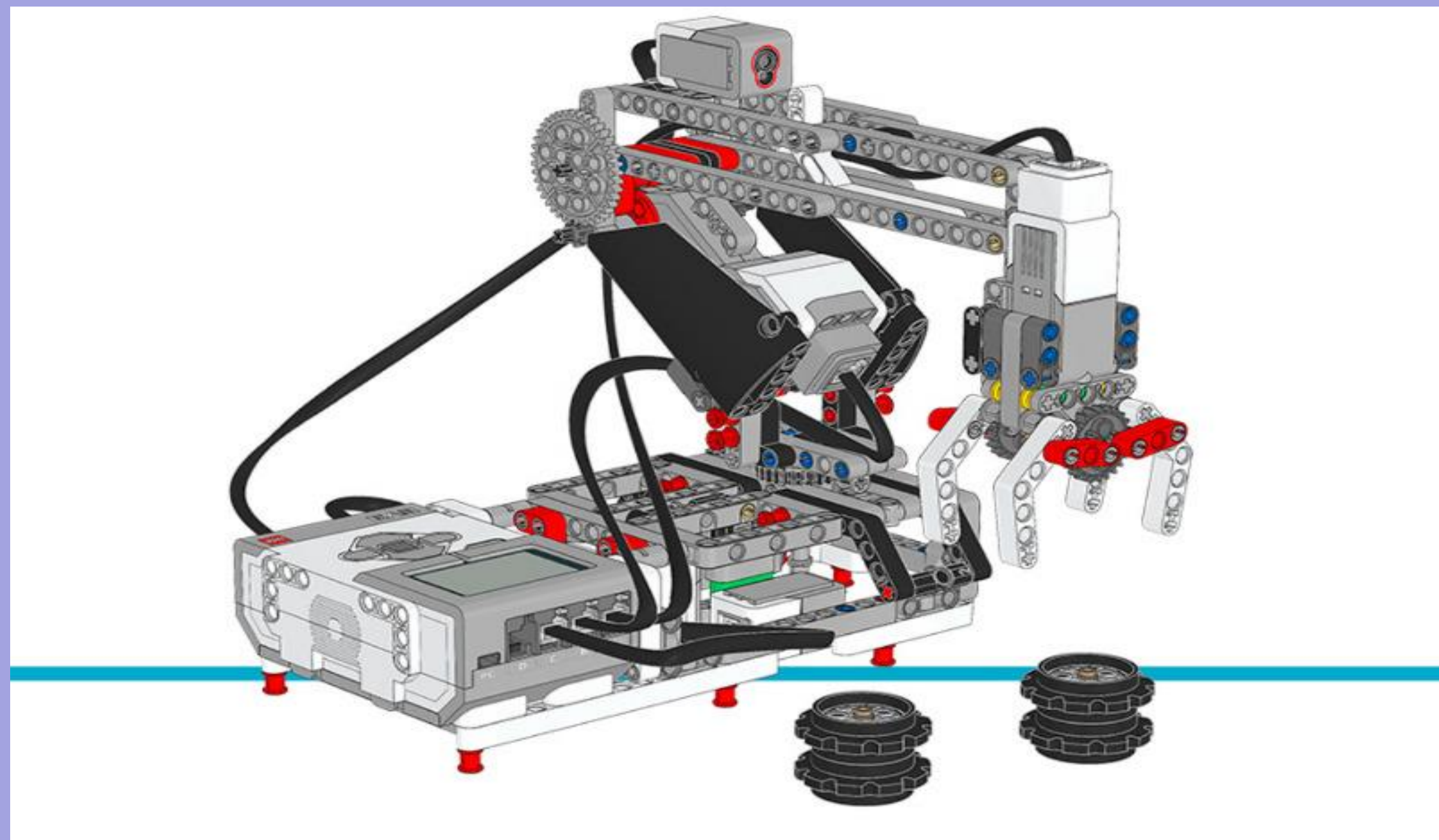
This is one design that one of our students went with for their robot! It is called a speed bot and it was used for a maze grand challenge. Url: <https://www.roboticscamp.net/lego-builds>

Activities:

- Completed Lego trainings with group to get used to the robot and the coding
- Collaborated on creating lesson plans
- Worked with CPA middle school students every week to teach and answer any questions they had

Impact:

I think this class gave me more insight into the work that teachers put into to get classes going both during class time by having to answer questions and problems on the spot and also behind the scenes by organizing the structure of the class. It was fun to build connections with the students and getting more confidence in my teaching ability as the weeks went by.



This is the design that our other student decided on. This is a robot arm design since the student wanted their robot to act like a crane. Their grand challenge ended up being to pick things up with the robot arm. Url: https://pybricks.com/ev3-micropython/examples/robot_arm.html

Site Information:

College Park Academy
 5751 Rivertech Ct, Riverdale, MD 20737

Timothy Reedy

Mission:

- Students thrive in environments with rigorous academics
- 100% of students will graduate college and career ready
- Students will be able to learn at their own pace with their structure of online learning

Future Work:

- Encourages students to get experience and learn more about robotics despite not having previous experience
- Addresses students not have any prior hands on experiences in their schoolwork

Issues Confronting Site:

- To get students more hands on experience/interest in STEM such as programming in as early as middle school
- To build a better connection with UMD by working directly with them

Acknowledgments:

Professor Reedy, Dr. Holtz, and Dr. Merck.

