Overview
Over the last few years various initiatives, such as CS for All and Hour of Code, have launched with an effort to help adoption of computer science and computational thinking into the K-12 education. Many educators agree that learning computational concepts improves students' problem-solving and logical reasoning skills. Teaching computer science to all also prepares a workforce for the future's digital industries and helps to ensure that it can be adequately staffed.

According to Lakanen [1] and other researchers, K-12 outreach positively impacts students' interest towards computer science and engineering studies by either confirming earlier career aspirations or bringing out new individual interest due to participation. Even students whose career aspirations were not affected by the outreach have been able to confirm that choice by being better informed due to outreach experiences.

Overall, research suggests that to be able to affect student interest in pursuing computing careers degrees, it is important to expose students to rigorous computational concepts in a hands-on manner. It is also important for the content to be engaging but at the same time approachable by all students.

As we learn about robotic agent technologies and examine civic learning issues in this field, we will participate in a number of outreach activities involving students in the Crawford Central School district. Each CMPSC 311 student is required to present in two outreach activities.

Presentation Assignments
Presentation assignments can be found in the spreadsheet distributed through the course’s #class Slack channel.

Objectives
To investigate civic issues around K-12 CS education. To expand on the technical presentation skills on the topic of robotic agents. To learn how to effectively create engaging hands-on activities.

Evaluation
The grade you will receive for the outreach activities will equal to one lab grade (about 9% of your course grade). Your outreach presentation will be judged based on the following criteria:

- **Attendance** [40%]: Students must attend at least two outreach events.

- **Mastery of Technical Presentation** [20%]: A portion of the grade will be based on a mastery of technical presentation skills. To receive this portion of the grade, the student should be able to explain the technical contents of their presentation in a clear manner.
• **Mastery of Technical Knowledge and Skills [20%]**: Students will receive a portion of their assignment grade when the technical aspect of their presentation does not present any mistake.

• **Mastery of Engaging Activity [20%]**: A portion of the grade will be based on an engagement component of the outreach presentation. To receive this portion of the grade, the student should be able to engage the audience and have a hands-on, interactive component to their presentation.