BRIAN KATZ

Advice
I would encourage anyone interested to at least apply, all the resources you need are local: the staff, faculty and fellow students are excellent resources to use for assistance on projects. I would then share about my experience and how much I enjoyed it!

Current Research
At the Fall 2019 Scholar symposium our team presented research we conducted involving machine human interface with a robot bartender. One of many studies involving social robotics. At the Social Robot Lab, we study communication between humans and robots in various social contexts to advance a theory of persuasive technology that enables robots and intelligent agents to build credibility, gain trust, and, ultimately, function more effectively. This Summer I worked with Dr. Austin Lee and the main focus of this project, to design and develop a robotic arm used for interactive social tasks in this case a bartending robot. The robot arm was designed with 6 degrees of freedom and programmed to accurately prepare cocktail beverages with precise recipe ingredients. FDM and SLA 3D Printing technology was the primary method used to produce prototype components, allowing multiple changes throughout the research project. Implementing 3D printing technology reduced fabrication cost and production time. During this program our team created 4 different robot arms using different materials and designs to see which had the best mobility, lift capability, and speed. C++ coding was required to learn in order to properly communicate tasks with the microcontroller. Arduino open source computer hardware and software is applied to control the robotic arm by driving servo/stepper motors to be capable to modify the position. The robotic arm is currently under testing/validating its performance and the results indicates that it can perform programmed tasks efficiently. With COVID-19 we see a much larger application for social robots to aid us to stay germ free during these unusual times.

Involvements

- Chapman's Social Robot Lab, Honors Society
- Pre-Law Society
- Mock Trial
- Moot