Dear Capstone Engineering Society Committee,

It is my pleasure to recommend Kate Sanborn for the Capstone Engineering Society Outstanding Senior Award. I worked with Kate in the summer of 2021, during which time she completed the CAT (Cognitive and Autonomous Testbed) Vehicle Research Experience for Undergraduates Program with my lab. Through this program, she demonstrated excellent problem-solving skills and the ability to learn and apply new skills.

This summer REU dealt with autonomous vehicle research. For her project, Kate and her team received telemetric CAN bus sensor data with dash camera footage recorded from several previous drives. Her team’s assignment was to synchronize the video with the data. Using the synchronized footage, they then were to identify clips of significant driving events. Kate’s main role was labeling these events. She successfully created several scripts to identify five different driving event categories, producing approximately seventeen hours of footage. In the process, she also learned and applied many new skills, including Docker and how to use a high-performance computer.

Kate is also a great problem solver. She enjoyed overcoming all the challenges that her project presented. When her scripts did not provide the desired result, she analyzed her methodology to determine what might have caused an issue. Then she researched and evaluated options for solutions, trying multiple methods until she knew that the results would be adequate. With this determination, she demonstrated an enjoyment of the problem-solving process and a dedication to her assigned tasks.

Since the CAT Vehicle REU program, Kate has continued to use what she learned about automation in other work experiences and the classroom. Last summer, she worked as an IT Process Automation intern at Ulta Beauty. In this role, she used Blue Prism to automate tedious manual processes, saving time and resources. Currently, her senior design team is building a robot for the IEEE SoutheastCon 2023 conference hardware competition. Using what she learned from the REU, Kate is writing code for path planning and mission control to allow the robot to run autonomously. This spring, she also joined the Crimson Autonomous Kart team through the Autonomous Vehicles class, a computer science elective. She continues to use what she learned from research in her role on this team.

In conclusion, I confidently recommend Kate Sanborn for the Capstone Engineering Society Outstanding Senior Award. Based on the work she completed that summer and the growth that she had, I know she will be an excellent candidate for this award.

Sincerely,