Safe Autonomy Final project: Deliverables and evaluation

November 30, 2020

Plan for today

- Presentation
- Video
- Report form
- Evaluation

Point distribution

- Final project can be worth 15% to 25% of your course grade
- Midterms + Project = 40% = max(15 m + 25 p, 25 m + 15 p)
- Project score break-up and components:
  1. Presentation 40% [Dec 7 and 9th]
  2. Video 20% [Dec 12th]
  3. Project work 40%
     - Report
     - Q&A
     - Peer evaluation
- We do **not** require any additional **project reports**. This document gives you information on logistics and evaluation of the last two items. Please read carefully.

Presentation

- Your group will be allocated a slot (**17 mins**) for presenting your class project on **Dec 7 and 9th** to the whole class
- After your presentation your team will breakout into a separate room for **Q&A (5 minutes)**. Then, we come back and join the next presentation
- **You have to attend** all the presentations and complete an **online peer-evaluation form**. This will contribute to the presentation grade.
- All members of the team are **not required** to deliver the talk. But, it should be made clear how the work was organized.
- Pointers on giving great talks: https://users.cs.duke.edu/~brd/Teaching/Giving-a-talk/giving-a-talk.html. Don't forget to **practice**.

Presentation schedule

Day 1	Dec 7th Mon	
2: 00 pm	Group 3	Akarsh, Supranh, Sriraam, Ashank
2: 25 pm	Group 1	Yifeng, Jonathan, Qijang
2: 50 pm	Group 7	Michael, Anshul, Nathan, Niviru
Day 2	**Dec 9th Wed**	
2:00 pm	Group 5	Shengkun, James, Haohang
2: 25 pm	Group 6	Immanuel, Robert
2: 50 pm	Group 4	Tanvi, Kushal

Video

- You have to submit a **3 min video** showcasing the salient parts of your project
- Actual downloadable video file required, not just the link.
- Examples here:
  - https://www.youtube.com/watch?v=YGSe4cUfq6Q
  - https://www.youtube.com/watch?v=nGu2odkB5ws
  - https://www.youtube.com/watch?v=v4qVNcGoMnI

Report form

Fill out a Q&A form (1-2 sentences)

- Project title
- What is the most impressive/exciting part of your project
- Roughly how many hours did your team spend on the project related activities and how are those hours distributed across the members?
- What were the top 5 most time consuming activities?
- What code did you have to write? List them if there are several modules and give the rough number of lines of code.
- What data did you collect?

Evaluation

- For all three components of the project (presentation, the video, and the actual work done) we are looking at the following **five** dimensions
- 1. **Organization**:
  - The project should cover: A clear problem statement, an. approach, metrics for evaluation, safety implications of the work, references to previous works
  - Cites references Provides explicit url to videos and code that we will link from https://publish.illinois.edu/safe-autonomy/projects/
  - Teamwork. How did the team members contribute?
- 2. **Professionalism and preparedness**:
  - Quality of **presentation/video** should be professional, well-written, delivered, and edited
  - What are the takeaways/punchlines?
  - How well were the questions handled?

Evaluation (cont.)

- 3. **Technical and intellectual merit of the approach**: Why was the problem and your solution hard/interesting? What was the technical result? What insights were used? We expect this to be the heart of the talk/video.
  - Describe a clear and well-thought out problem statement, formulation
  - Explain the approach you used, even if it feels redundant (e.g., explain how the controller you implemented works)
  - Walk through the engineering steps you took to achieve your goal
  - Citations to relevant related work
- 4. **Execution Effort**
  - The Report Form will have questions related to this
  - How much effort was put in?
  - What code was written, reused, what data was collected?
- 5. **Results**: We will assess your work based on the experiments and analysis that you provide in the results section. We hope to see the following:
  - Effective and informative plots
  - Insightful discussion and/or analysis of safety
  - Thoughtful pros and cons of your approach and what future work would be to make this a viable (and safe!) autonomous system out in the real-world