Plan Overview

A Data Management Plan created using DMPTool

Title: Equipment for F1Tenth Autonomous Racing Capstone Course

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Affiliation: Carnegie Mellon University (CMU)

Funder: United States Department of Transportation (DOT) (transportation.gov)

Template: Digital Curation Centre

Project abstract:

This proposal is for equipment funding for an F1Tenth Autonomous Racing Course that will be offered for the first time at Carnegie Mellon University in Fall 2023 by the PI. The course was developed by fellow Safety21 UTC member Prof. Rahul Mangharam and team at the University of Pennsylvania. It gives students a strong foundation in the full autonomous driving software stack and stresses safe maneuvering at high speeds among multiple surrounding vehicles. Participants in and graduates from the course at Penn and other universities have competed in F1Tenth race competitions at major robotics and transportation conferences including ICRA, IROS, and the IEEE Intelligent Vehicles Symposium and gone on to jobs in the intelligent transportation industry. The course therefore has high impact in the area of intelligent transportation workforce development. Furthermore, the technologies and techniques learned for maneuvering safely at high speeds have application to safety at the typically lower speeds of highway and city driving, and to the quick reactions needed to respond safely to emergency situations in conventional driving.

Start date: 07-01-2023

End date: 06-30-2024

Last modified: 10-16-2023

Equipment for F1Tenth Autonomous Racing Capstone Course

Data Collection

What data will you collect or create?

Data collected will be lab and other assignments completed by the students. The students will also log data to help them improve the performance of their vehicles.

How will the data be collected or created?

The assignment data will be generated by students in response to assignment prompts. The log data will be collected from the sensors on the student teams' RC cars.

Documentation and Metadata

What documentation and metadata will accompany the data?

The assignment data will be self-explanatory based on the assignment prompts. Documentation of the log data is left up to each team, but those data are not meant for public consumption.

Ethics and Legal Compliance

How will you manage any ethical issues?

Student grades and grading feedback will be kept private.

How will you manage copyright and Intellectual Property Rights (IP/IPR) issues?

Any IP that is generated in the course belongs to the students according to CMU policy.

Storage and Backup

How will the data be stored and backed up during the research?

All of the assignment data will be submitted and stored on Canvas.

How will you manage access and security?

Only registered students and instructors have access to Canvas.

Selection and Preservation

Which data are of long-term value and should be retained, shared, and/or preserved?

There is no expectation of data generated in this project having long-term value. The student assignments and projects will be stored on Canvas.

What is the long-term preservation plan for the dataset?

No dataset is anticipated.

Data Sharing

How will you share the data?

The data will be shared among the instructors using Canvas.

Are any restrictions on data sharing required?

The data will be restricted to the instructors based on Canvas access.

Responsibilities and Resources

Who will be responsible for data management?

The PI will be responsible for data management.

What resources will you require to deliver your plan?

CMU's Canvas course management software will be required.