Hierarchical Decision Making and Control in RL-based Autonomous Driving for Improved Safety in Complex Traffic Scenarios

Data Management Plan
October 16, 2023

DATA DESCRIPTION

This project will primarily generate data from simulations of vehicle and traffic scenarios under the control of both exploratory and currently available control algorithms. Publicly available map data to allow simulation on actual road geometries may also be used. We may also use publicly available research datasets and models for comparison. We do not expect to collect data from actual vehicles or create general purpose datasets within the scope of this project.

Data products will include journal and conference level research papers and presentations, software codes written in commonly available languages including Matlab, Python, C and C++, simulations on both original and available simulation packages, including Matlab-Simulink and SUMO, and their results.

DATA FORMAT AND STANDARDS

Animations or graphical data used and created by the project will be stored in standard open digital image and video formats, for example JPEG and MPEG-4/H.264. Numerical data will be stored in standard open file formats such as Matlab, Excel, CSV, and plain text. Software will be managed using standard version control SVN and GIT repositories.   Tools such as Matlab as well as custom developed software will be employed.

POLICIES FOR ACCESS AND SHARING

Research results, including data, algorithms, and software developed, will be disseminated in scientific publications and presentations, long term archival dataset and source code storage systems such as Zenodo and GitHub, as well as final reports that will be available on the Safety21 and other websites. Research data needed to validate research findings or used in the creation of final products or deliverables and any data useful to conduct new studies or for teaching or instructional purposes will be made available through a website, as attachments to publications, or on another archival data platform such as Zenodo

The PI and OSU Technology Commercialization Office will make an evaluation regarding invention disclosure, patentability, and other intellectual property issues that may require protecting or limiting access to software and source codes, otherwise those materials will be available on request and in a manner consistent with the terms and conditions of the grant.

Any publicly available datasets or models used will be fully cited and documented.

We do not expect any data used or produced in this project to fall under ITAR or other Export Control regulations.   None of the data used in this project will contain personal information.

We will comply with The OSU Research Data Policy.

PLANS FOR ARCHIVING AND PRESERVATION

Data will be stored on local servers professionally managed by the Ohio State University College of Engineering ETS as well as cloud-bases services such as Microsoft Sharepoint and OneDrive. Digital and written data will be retained by OSU for a minimum of 5 years following the end of the project, as per the OSU Research Data Plan. Simulation and analysis data that is easily recreated, preliminary analyses, drafts of scientific papers, plans for future research, peer reviews, or communications with colleagues are normally not be considered for long-term storage and preservation.