Privately Owned Vehicle Work Group Kick-Off Meeting - 2024/11/11 - Slot 1 #5418

m-zain-khawaja started this conversation in **Working group meetings**

m-zain-khawaja last week Collaborator edited

Agenda

Provide a summary of the key developments which have already occurred in the PoV work group prior to its formation, including:

- SceneSeg Neural Network
- SceneSeg dataset
- Codebase summary
- Overall development goals and product plan

Attendees

- @m-zain-khawaja (Senior Tech Lead at AWF and Privately Owned Vehicle Work Group Chair)
- @mitsudome-r (AWF Technical Steering Committee Chair)
- @idorobotics (Project Manager at AWF)
- Narendar Selvaraj (Senior Member of Technical Staff at AMD)
- Jim Lee (Independent Researcher)

Discussion

- Introductions by attendees
- Run through of agenda items by @m-zain-khawaja
- A presentation was shared by @m-zain-khawaja on the SceneSeg Neural Network, describing the key network features and role of SceneSeg as forming a ***Safety Shield*** for autonomous vehicles by detecting all important foreground objects, irrespective of what that object is.
- A detailed run-through was presented of the codebase for the SceneSeg Neural Network and its inner workings by @m-zain-khawaja
- An overview was presented by @m-zain-khawaja of the overall neural network vision pipeline and high-level ensemble network, called AutoSeg
- Jim enquired whether static objects could also be detected by SceneSeg, and @m-zain-khawaja explained that given the training of the network on movable foreground objects, the main detection relates to all movable object categories, and that a separate neural network

Category

Working group meetings

Labels

meeting:privately-o...

2 participants

would be required to complete the vision-pipeline ***Safety Shield***. This second neural network would calculate the true depth of pixels in the scene and use geometric 3D processing to detect the ***object-ness*** of every 3D point in the scene.

- **@mitsudome-r** enquired about publicising the AutoSeg repo (which contains the code for SceneSeg) and transferring ownership to Autoware, an action item was taken that **@m-zain-khawaja** would have a meeting with **@mitsudome-r** to transfer ownership of the AutoSeg repo to Autoware Foundation and make the repo public.
- **@idorobotics** requested a 15 minute slot in the next meeting to cover best practice guidelines for work-group meetings
- Jim also enquired about areas where he could help contribute to the code-base, to which **@m-zain-khawaja** replied that it would be very helpful if a literature review could be conducted on state-of-the-art approaches related to lane detection, path prediction and diversion-path prediction (drivable paths in road work scenarios), including what state-of-the art methods exist, what approaches they follow, performance metrics, and open-source datasets which can be used for network training.
- **@m-zain-khawaja** then shared a presentation covering the overall development goals and product strategy related to the privately owned vehicle development, alongside the development roadmap.
- Narendar shared that AMD has planes to develop an autonomous driving solution tailored for a highway lane-driving scenario, and that the Privately Owned Vehicle development seemed highly relevant to AMD's work, and followed a development strategy that closely aligned with that of AMD.
- Narendar also said that he would request some of his other colleagues in the machine learning team at AMD to join Slot 2 of this work-group meeting scheduled for later today.
- Jim also mentioned that he would be interested in continuing the discussion offline and asked how best he could get in touch with **@m-zain-khawaja**, to which **@m-zain-khawaja** replied that the Privately Owned Vehicle Work Group Channel in the Autoware Foundation Discord server was a good place for such discussions.

Zoom Meeting Video Recording

Video Meeting Link

Passcode to Access Recording: 5W2W4A^m

↑ 2 👀 1

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idorobotics last week Maintainer

@m-zain-khawaja WG Best Practices training usually takes around 40-50 min

↑ 1 3 replies

m-zain-khawaja last week Collaborator Author

@idorobotics - thank you for your message, I can follow up on email to schedule a time for us to discuss 1-on-1 and go through work-group best practices so that the Slot 2 participants are able to get the main WG updates - is that okay?

idorobotics last week Maintainer

The best practices training is for the benefit of all WG members. I can run the session during the slot 1 WG meeting, next Monday (18 Nov).

m-zain-khawaja last week Collaborator Author

Sure - I will schedule it accordingly for Slot 1 next week

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