Transcript

00:00:26 Interviewer

OK...So you've read that... I have to record you. So you've... you've consented. You've read the consent form and everything.

00:00:35 Stakeholder20_NonAV Driver

I have read and... and do agree with it.

00:00:37 Interviewer

OK. Perfect. So now I'm just kind of giving you a bit of background about AI and what my projects is about. Then I'll go through the questionnaire and the questionnaire is just one big question and then a couple of secondary questions about your stakeholder group, so. Um... in the field of artificial intelligence, you've probably heard AI, this AI, that. It's basically a whole bunch of software programs or algorithms that are applied to different tasks that perform things as well as the human being does. OK, so AI is helping read CT scans, AI is playing Fo games or chess. AI is driving cars, you know ... different algorithms now. What makes these algorithms different and unique from the stuff you know? Xxx and I learned way back in our old age is deterministic. As in they have very firm if this, then that line by line coding that you can audit it. You can understand what the software was doing. These are opaque, as in not transparent black boxes where engineers have these very complicated statistical equations inside. Layer upon layer where they input a whole bunch of data and it comes out with an output and they basically train this by just tweaking the results and saying this is good, that isn't good. Changing the inputs and just training these models until they perform the task. So they're opaque even to the designers. They don't know how this thing came up with the outputs because they're so complex. Yeah. So because they're opaque, about 10 years ago in America, DARPA came up with this initiative called Explainable AI, where they're trying to break into these black boxes. And engineers, us being what we are, we design stuff for ourselves, so we want to make whatever system we've designed perfect. So we're just looking at the functionality. But I took a step back and I said hang on a minute, you're building explainable AI models for yourselves and not for all stakeholders in society of these technologies, you're letting loose in the world. So I looked at the subject of explanation. And we're asking why questions all the time, OK. And in the social sciences, they studied this subject question. So we're asking why did our friends get divorced? Why did the airplane crash? Why did the economy tank, etcetera. Right. And

depending on the situation and the person, it will be a different answer. And so what I said is an explanation, even though it's a universal thing, it's not uniform. So it's not the same thing. So social sciences that came up with a whole bunch of research on what an explanation is and I'm now taking that knowledge, applying it to the field of explainable AI to tell engineers, hey, guys, before you even design an explainable AI model go find out what explanation you need to produce and for whom. So the purpose of this interview is to test out this framework I'm going to give a bunch of engineers to use. And it's to gather in depth information on the subject of explanation from the perspective of human beings. So I'm going to give you a real life case study. And I'm going to ask you about it. So it's not a test for you. This interview is about gathering your views, perspectives, thoughts, questions, opinions about a real-life scenario. There are no right or wrong answers, so Are you ready?

00:04:34 Stakeholder20_NonAV Driver

I am ready!

00:04:35 Interviewer

Awesome. Take a deep breath. Let me describe. Let me describe this scenario to you. OK, so it involves a real-life case within the AI application of automated vehicles or AVs. You know, like the Teslas.

00:04:50 Stakeholder20_NonAV Driver

OK, the Tesla.

00:04:51 Interviewer

Yeah. So it involves the occurrences of actual car crashes involving Tesla and its automated system advanced driver assistance system called Autopilot. So Tesla's Autopilot controls the steering, braking acceleration functions of the AV without any assistance from the human driver. Furthermore, autopilot could, at anytime, disengage and hand over the controls to the human driver. OK.

00:05:22 Stakeholder20_NonAV Driver

Right.

00:05:23 Interviewer

Alright, according to USA NHTSA, National Highway Traffic Safety Administration, they have an Office of Defects Investigation and they said between January 2018 and January 2022, Tesla AVs with Autopilot engaged were involved in 16, as in 1-6, crashes where they struck highly visible stationary either on the road, in road or by the roadside first responder vehicles that were attending to pre-existing collision scenes.

00:06:02 Stakeholder20_NonAV Driver

Oh great!

00:06:03 Interviewer

Right, police, ambulance, fire trucks, maintenance vehicles, lights flashing, people with vests on, you know, highly visible, right? So, also in these 16 crashes, on average, autopilot aborted vehicle control less than one second prior to impact. So it disengaged.

00:06:28 Stakeholder20_NonAV Driver

But one second before. Yeah, less than a second on average, right. So remember in all these cases, there was a human being behind the wheel. The human being, obviously, was distracted, not paying attention, didn't take over. OK. Also yeah, also assume that all the hardware, everything else was working just fine. All the sensors, all the controls, everything. OK. All right. So based on this scenario you're seeking explanatory information about these car crashes from autopilot, the thing that was doing the driving, OK. Yeah, and when you ask why did these car crashes happen in your mind, what kind of things are you thinking about, about the decisions it made or didn't make the actions it took or didn't take? What do you want to know?

00:07:31 Stakeholder20_NonAV Driver

Was it sleeping or what? Well, I would want to know why they didn't recognize the ...the obstacle that was in their way ...that they hit like, why was that not seen by them?

00:07:48 Interviewer

OK.

00:07:55 Stakeholder20_NonAV Driver

Some sensor that should have taken over and been able to see that obstacle or recognized black and white or whatever, I don't know how it's set up, but it like what happened to the program that was supposed to do that?

00:08:12 Interviewer

Correct. OK. What else do you want to know?

00:08:18 Stakeholder20_NonAV Driver

Well, I'm curious. So I would want to know. I... I missed the date. Was it like 4 dates.. like 18 to 22 or something?

00:08:27 Interviewer

January. Yeah. Over four year period. So between January 2018 to January 2022. So over a four year period.

00:08:35 Stakeholder20_NonAV Driver

Four years,... four year kind of thing.

00:08:40 Interviewer

Yeah, I don't know... what whether it was front loaded or back loaded, I don't know. Yeah.

00:08:46 Stakeholder20_NonAV Driver

We average in four years. Yeah, yeah. Three or four months? Yeah. No, I would want to know, like, was it not programmed for, for emergency vehicles? Was it not programmed for flashing lights or it seemed that these things were all sort of ...like a difference that obviously this scenario was not programmed into the automatic pilot or automatic drives or whatever you call it.

00:09:15 Interviewer

Autopilot. Yes,

00:09:16 Stakeholder20_NonAV Driver

Autopilot. Obviously, if they were all emergency vehicles, fire and ambulance, did they forget about those people in their in their program?

00:09:30 Interviewer

Good question. What else do you want to know?

00:09:38 Stakeholder20_NonAV Driver

... or give it back to the driver like a millisecond before, like it wasn't enough time, whatever that time is obviously off. Like it was going to give ...Autopilot realized there was a problem

and needed to give it back to the driver, one second before isn't going to cut it. So that has to be looked at in the program.

00:10:01 Interviewer

Yeah, yeah.

00:10:13 Stakeholder20_NonAV Driver

Well, I'd just be curious, was anybody injured or killed?

00:10:16 Interviewer

There were injuries in some instances. It was firefighters that were injured. In some instances, it were police that were injured. No fatalities.

00:10:28 Stakeholder20_NonAV Driver

Thank God. Am I missing something major here?

00:10:35 Interviewer

It's OK. Yeah.

00:10:37 Stakeholder20_NonAV Driver

Yeah? I ...I just.... I mean, to me if.. if ...I, ... I would have thought that before they put this automatic pilot to work and ...and, you know, put it on the market that they had looked at every single scenario. How is it that 16 identical scenarios happen, all with emergency vehicles? Obviously somebody missed that.

00:11:07 Interviewer

Yeah. OK, let's take a little bit of a breather and go to the secondary questions.

{Secondary Questions and General discussion}

{Recording issues (e.g. Spotty, not decipherable) + General Discussion}

00:22:23 Interviewer

So OK, let's go back to the first question. Anything else you want to ask about the decisions made or not, about the... about the actions taken or not by Autopilot itself or you know any questions you have any others than what you've already?

00:22:47 Stakeholder20_NonAV Driver

And I guess it took why did it hit? You know, I think ... like... like that should not happen. And why didn't it go around or change lanes or get out of the way? Or whatever it, you know, what program should it have had there? And then as I said, they all were emergency with ... like it wasn't just one, you know, one was this, one was that like a car and the truck they were all...

00:23:26 Interviewer

Yeah, in these 16, by the way, there are other accidents with autopilot that they... they don't have a pattern, right? They hit all sorts of things anyway, so.

00:23:37 Stakeholder20_NonAV Driver

Great.

00:23:38 Interviewer

So yeah, it's just, you know, but Mercedes is doing this, and you know Toyota and they're doing it all over America and Europe and Canada and that. It's just it's different, different jurisdictions, different numbers. Do you know what I mean, like they're not...

00:23:53 Stakeholder20_NonAV Driver

How did they get around the difference. Like I don't know is there different... different laws that say emergency vehicles have to be ....like in Canada what we have to say 3 feet away or something two to three feet around an emergency thing. We have the same lane. Actually, I think the law is that actually have to get out of the the... the lane like this if there's an emergency parked vehicle, you should be in the immediate lane. You should go over one as you're passing it or try to go around it wide.

00:24:30 Interviewer

Yeah, I don't know what the law is in every jurisdiction ... I think they're pretty much what you describe. Like people should....

00:24:42 Stakeholder20_NonAV Driver

That you can tinkling think when you sit, move over and you know give them the... the....whatever that is, 10 feet.

00:24:49 Interviewer

Yeah, yeah. I think that expectation is realistic for everybody. And so I... I... I don't know. Yeah, I ...I don't know why it didn't do it. And I don't think even the designers may not know why it didn't do it anyway, because these are, remember, opaque boxes. And if they did, I

don't know if they shared it with NHTSA, because remember they're they've got proprietary....

00:25:04 Stakeholder20_NonAV Driver

Yes.

00:25:15 Interviewer

They're very proprietary. They're sitting behind proprietary walls, these algorithms, and so they may know, they may not know. They may have shared it with NHTSA. They may not have. NHTSA may not have the capabilities or the expertise to evaluate these algorithms. There's a lot of unknowns at the moment from my perspective. So OK, I'm at the end of my questionnaire. Do you have any comments or questions for me?

00:25:44 Stakeholder20_NonAV Driver

No, I just.

End Transcription for analysis .... 25:46 when Interviewer Patel stopped recording and transcription