Transcript

00:00:40 Stakeholder17_NonAV Driver

OK. I'm ready. I'm ready and willing.

00:00:53 Interviewer

Oh thank you! So just to let you know, I'm recording you. Do I have your consent to record? I will never use your name in my studies, OK?

00:01:02 Stakeholder17_NonAV Driver

OK

00:01:02 Interviewer

I will just call you a driver or pedestrian or passenger, whatever designation we end up calling you.

00:01:09 Stakeholder17_NonAV Driver

I see. That's fine. Yes. OK.

00:01:12 Interviewer

So x's got the form, so she'll also have you sign it when, you know, when you're when you're ready to do so. So I don't know what x has told you about my research? Do you know anything or ...?

00:01:28 Stakeholder17_NonAV Driver

It's something about AI. That's all I know.

00:01:31 Interviewer

OK.

00:01:32 Interviewer

All right. So let me just give you kind of... a bit of an overview. So right now, everybody's talking about AI as you're aware and you know, AI is driving cars and helping doctors identify CT scans, analysis. Some AI is playing Go games. Other AI is talking to you. ... All kinds of stuff.

00:01:53 Stakeholder17_NonAV Driver

Yes.

00:01:54 Interviewer

Right. So basically, how these software programs AI is our software programs, different ones and depending on what is required. It's not like the old fashioned software programs where we used to say, OK, if you do this then that. This is... these are very opaque as in not transparent. We don't know, including the engineers, how these systems come up with their outputs. They give them a whole bunch of inputs, it's all computed statistically, and outcomes and output, and they just don't know what's going on between input and output.

So what... the .. about 10 years ago, they recognized this and they started this initiative called explainable AI. So they're kind of breaking into these opaque black boxes.

00:02:49 Stakeholder17_NonAV Driver

OK.

00:02:50 Interviewer

So my research is within explainable AI and I'm an engineer background --- aerospace and you know, I've worked for decades. I graduated with xxx by the way ... so, I'm doing this in my retirement years.

00:03:07 Stakeholder17_NonAV Driver

Yes, yeah.

00:03:07 Interviewer

So what I'm doing is... I said hey guys, before your build, these explainable AIs and try and produce explanations, you're doing it for yourselves, but let's step back and say OK, what's an explanation? And you know, we're always asking why questions. Did our friends get divorced? Why did the airplane crash? Why did the economy tank? So we're always giving explanations and asking for them. And depending on the situation and the person, an explanation will be a different thing. So, I said it's not so easy and so I created a framework to help engineers identify, you know, what kind of an explanation is required before they even design an explanatory model itself. So OK, so I'm testing out my ... my framework and what I'm gonna' do is interview people from all walks of life who are impacted by one AI application which is automated vehicles which are on the road. You know, the self driving cars?

00:04:15 Stakeholder17_NonAV Driver

Yes. That's right.

00:04:16 Interviewer

So I'm gonna' give you a scenario, and then I'm going to ask you for your views, your perspectives, your thoughts, your questions and opinions about this scenario. So....So this isn't a test for you. Any answer you give me is a good answer. There's no right or wrong, right?

00:04:34 Stakeholder17_NonAV Driver

OK.

00:04:35 Interviewer

Ok, All right. So let's start with the case study. I'm going to describe....And you can stop me at any time if I'm using terminology that you want an explanation for. You know ... any questions.

00:04:48 Stakeholder17_NonAV Driver

Yes

00:04:49 Interviewer

OK so... This case study scenario involves a real-life case within the AI application domain of automated vehicles, which we call AVs. OK?

00:05:04 Stakeholder17_NonAV Driver

Yes

00:05:05 Interviewer

So it involves the occurrences of actual car crashes of one particular brand called Tesla and its AV system is called Autopilot. OK, Tesla's autopilot, it controls the steering, the braking and acceleration functions, so the gas pedal, the braking, the steering of the AV without any assistance from the human driver sitting behind the wheel. OK?

00:05:35 Stakeholder17_NonAV Driver

Yes

00:05:36 Interviewer

So the human driver can take hands off, feet off and the car will drive. OK.

00:05:43 Stakeholder17_NonAV Driver

Yes.

00:05:44 Interviewer

Right, so, furthermore, note that Autopilot can at anytime disengage and hand over the controls to the human driver.

00:05:54 Stakeholder17_NonAV Driver

OK, OK. How is this different from um ... From cruise control?

00:05:57 Interviewer

Yes, very different. So right now, SAE, which is the Society of Automotive Engineers have levels of automation. And levels 0 to 2 require the human driver to pay attention constantly.

00:06:17 Stakeholder17_NonAV Driver

Yes

00:06:18 Interviewer

So level 0 is stuff like cruise control or, you know, the blind spot indicators all that.

00:06:20 Stakeholder17_NonAV Driver

Sure.

00:06:25 Interviewer

So level 1 is lane centering stuff like that, level 2 does the steering, the braking, the ... you know the acceleration. Like this Tesla, it's a level 2 and that the driver must always be paying attention and ready to take over instantly. OK.

00:06:44 Stakeholder17_NonAV Driver

Yes

00:06:45 Interviewer

And then levels 3-4 and five are more automated, 5 being you don't even need a steering wheel or brake pedal or any pedals, right? Truly fully automated in all conditions.

00:06:58 Stakeholder17_NonAV Driver

I see.

00:06:58 Interviewer

OK. So this is just a higher level of automation than the cruise control that you know about. OK. o in this case, study that I'm going to talk about with you and ask your opinion on, according to USA NHTSA, which is National Highway Traffic Safety Administration, their office of Defects Investigation., said between January 2018 and January 2022, so 4 years, Tesla AV's with Autopilot engaged, were involved in 16 crashes where they struck highly visible stationary in road or roadside first responder vehicles that were attending to pre-existing collision scenes. So. these are, ambulance, fire trucks, road maintenance, lights flashing, people helping another car accident, you know, visible vests, all of that.

00:07:57 Stakeholder17_NonAV Driver

Yes

00:07:58 Interviewer

And these Teslas with autopilot in control, drove into them and crashed. OK. And one more point, on average in these 16 crashes, Autopilot aborted the vehicle control less than a second prior to the first impact. OK, so less than a second for the human driver to take, ... take control.

00:08:24 Stakeholder17_NonAV Driver

OK.

00:08:24 Interviewer

So note, yes, there was a driver in the vehicle and we knew he obviously or she wasn't paying attention in these 16 crashes, so didn't take over.

00:08:38 Interviewer

OK?

00:08:40 Stakeholder17_NonAV Driver

Yes, OK.

00:08:41 Interviewer

So assume that all of the hardware, all the other systems in the car, working just fine. And I just want you to put yourself in this scenario, and look at it and say OK, you're going to ask autopilot the system that was controlling the motion control functions, why did this car crash? So you're going to ask about its decisions made or not made, actions taken or not taken about in these 16 instances, so what kind of explanation are you thinking of? Like, what's in your mind?

00:09:22 Stakeholder17_NonAV Driver

I'm thinking that you have one second, did you say?

00:09:27 Stakeholder17_NonAV Driver

Yes.

00:09:28 Stakeholder17_NonAV Driver

To alert. So the fact that you're in control now because the car car's automatic system has just stopped. I don't think you can prevent that accident in one second. And that's the case then you really can't trust the AV.

00:09:48 Interviewer

Mm. Hmm..

00:09:50 Interviewer

So what questions do you have for the AV ? Because remember, the AV is making decisions and taking actions. So do you have any questions for it? Like if it was a human being that went around all over America and 16 times did this? What would you ask of that person about, OK why did this happen?

00:10:11 Stakeholder17_NonAV Driver

Well, I think you have to take away their license. They shouldn’t be allowed on the road.

00:10:16 Interviewer

Right.

00:10:18 Stakeholder17_NonAV Driver

And if that's the case, I would want one of those AV cars. I was thinking of maybe, like I'm 83 years old right now. I'm still driving.

00:10:31 Stakeholder17_NonAV Driver

Oh cool.

00:10:31 Stakeholder17_NonAV Driver

That's great, but I'm thinking. My car is, what, five years old? It's like new because you know you don't go very far. So, I was thinking this would be the last car that I will buy because the next car I want is going to be a driverless car.

00:10:54 Interviewer

Yes.

00:10:55 Stakeholder17_NonAV Driver

And it will drive me and take me safely everywhere. And it'll be an AV that's reliable, but I don't think they have it yet. So are they going to have it when they need it?

00:11:09 Interviewer

Not anytime soon. So yes, from what I know about the technology, it's not ready yet for ... as I said, Level 5, you're thinking level 5, right?

00:11:20 Stakeholder17_NonAV Driver

Yes

00:11:21 Interviewer

Right. Right now, they're all at level 2. And it's not just Tesla, it's all of them, Mercedes. All of them. ... Toyota, everybody's at Level 2 right now. But for my research, what I'm thinking is ... okay this is an agent in the world performing human tasks right?

00:11:44 Stakeholder17_NonAV Driver

Yes.

00:11:45 Interviewer

So what questions do you have for this agent about what it was thinking? Can you kind of zero in on that portion.

00:11:54 Stakeholder17_NonAV Driver

Why did it stop functioning?

00:11:58 Interviewer

Yeah.

00:11:59 Stakeholder17_NonAV Driver

A second before the accident. And, how it has to notify the person in the driver's seat to give them more time to take over if, ... if the... the AV system is stopping.

00:12:21 Interviewer

Mm. Hmm... Anything else?

00:12:24 Stakeholder17_NonAV Driver

No

00:12:25 Interviewer

No, you just want to focus on that one second and why it's

00:12:28 Stakeholder17_NonAV Driver

Yes

00:12:28 Interviewer

why it didn't do it sooner.

00:12:31 Stakeholder17_NonAV Driver

Sooner Certainly.

00:12:35 Interviewer

Do you have any questions about the decisions it made about steering or braking or changing the speed?

00:12:44 Stakeholder17_NonAV Driver

It should have seen in advance of that one second, because one second I don't know what that distance is, that it drove in one second, but certainly as a driver, I think ahead and stay

well behind any vehicles in city and well, I don't much highway driving anyway. But in the city I keep my distance so that I do have time to get out of the way, stop, show down or whatever. If something happens in front of me, so why wasn't the ...the AV system doing those things?

00:13:28 Interviewer

Right. Right. Anything else?

00:13:31 Stakeholder17_NonAV Driver

mmm... I can't think of anything off hand.

00:13:35 Interviewer

OK. So I'm gonna give you a little bit of a break because my questionnaire, this is the main question. And then I have a bunch of secondary questions to get a bit of background about you, the interviewee.

00:13:48 Stakeholder17_NonAV Driver

OK

00:13:49 Interviewer

So let's start with just how much do you know about AI systems. So on a scale of one to five, one being no knowledge, 2 being knowledge of different types of AI systems and some applications, then five goes up to expert software engineering knowledge.

00:14:07 Stakeholder17_NonAV Driver

Somewhere would be between 1 and 2,..

00:14:11 Interviewer

One and two, OK, fair enough. Can you off the top of your head, tell me about the AI systems you're aware exist or you know that kind of stuff? Or, are you just saying just the AV?

00:14:23 Stakeholder17_NonAV Driver

A ... I really don't know very much about it at all really.

00:14:37 Interviewer

Ok ...Fair enough, fair.... So when you hear the word autopilot, just the word. What ...what do you assume as the level of driving automation? Fully automated ...or partially automated?

00:14:54 Stakeholder17_NonAV Driver

I say autopilot to me would be fully automated

00:15:00 Interviewer

OK Any explanation as to why you think that? Is... is it some? Is it just the word auto or the word pilot or what? What it? Why would you think of?

00:15:15 Stakeholder17_NonAV Driver

I think of um... Air pilot.

00:15:16 Interviewer

Yeah.

00:15:20 Stakeholder17_NonAV Driver

You know, being controlled... airplanes, there's a pilot, there's the autopilot. So when the pilots... I'm going to washroom, um... the autopilot takes over everything. OK. So that's what I would think of. Yes, of you're referring to autopilot in the car, it should be able to take over everything

00:15:46 Interviewer

Right, without the supervision of the person.

00:15:46 Stakeholder17_NonAV Driver

Yes. Yeah.

00:15:47 Interviewer

OK, good. And one last question, this explanatory information that I'm asking you, the first question, why would you want that information from systems like these, like would you want it for trust, transparency, other reasons? Or, I don't care?

00:16:07 Stakeholder17_NonAV Driver

Oh. I know, I mean, I'm not going to go into studying what AI is all about. I'm not interested in it because ...

00:16:21 Interviewer

Well, but these systems are amongst us, doing things so you know, do you want to know the reasons behind their actions and their outputs?

00:16:32 Stakeholder17_NonAV Driver

No, not really, no. OK.

00:16:34 Interviewer

Alright.

00:16:34 Stakeholder17_NonAV Driver

Well, avoid them as much as possible.

00:16:39 Interviewer

Well, you're not gonna avoid these AVs because they're all over the streets, and even though you don't sit in them, you're impacted by what they're doing. Because remember, these are thousands of pounds of muscle driving around on the street, right?

00:16:52 Stakeholder17_NonAV Driver

Right, right.

00:16:53 Interviewer

They're not always controlled by humans sitting behind the wheel, like they may not paying attention so they do impact you in those ways and ... and you know so, we're not immune to some of these systems, whether they like it or not.

00:17:09 Stakeholder17_NonAV Driver

Yes.

00:17:10 Interviewer

OK. I'm going to double back to the first question. What other explanatory information other than what you've told me do you want from this system about these 16 incidents? Is there anything else you want to ask questions about?

00:17:30 Stakeholder17_NonAV Driver

I can't think of anything else. No.

00:17:32 Interviewer

OK fair enough. I'll... what I'll do is I'm going to just kind of give you a little bit of background on why I asked some of the secondary questions.

End Transcription for analysis .... general discussion continued until 00:25:45 when Interviewer Patel stopped recording and transcription