

DPRG RBNV Chat Record – January 23, 2024

Carl Ott

7:41 PM

Mike W

Jai – Iron Reign / longer one

Doug D – Literal Smoke Test

Carl – shorter item - Tesla

Carl- CES 2024 Open mic

Mickey Dean

7:41 PM

FSD 12?

Mickey - yes FSD 12...

Mickey Dean

7:42 PM

cool

Mickey Dean

7:44 PM

Carl, are you familiar with Comma.ai? you obviously would not need it, but it is an interesting ADAS option for about 200 cars

Carl Ott

7:44 PM

Mickey - yes have watched them on and off for years...

~7:41/7:43pm - Mike W - digging into ROS. sifting through various issues. Worked on a Vision option with his new OpenMV Cam.

Carl Ott

7:47 PM

Mike and Ray discussed using the processor on the OpenMV board and send that data via serial together with OpenMV camera data to his Raspberry PI

Mickey Dean

7:48 PM

Ray, interesting idea

Carl Ott

7:50 PM

Ray described one OpenMV routine that lets you project a "line laser" at a downward angle (e.g. the kind used to project a level line in home construction), then then use the OpenMV routine to judge approximate distance by detecting the position of the line in the image. Gives upwards of 25 hz (frame rate) distance sample...

Brad Garton

7:51 PM

I found this link for OpenMV RT1062 <https://openmv.io/products/openmv-cam-rt>

Carl Ott

7:52 PM

~7:51pm - Jai shared a 'best-of' video from recent competitions.

Carl Ott

7:53 PM

GOLD STAR for Jai & Iron Reign!

Carl Ott

7:54 PM

Their goal for this year is to optimize cycle time for pickup pixel, translate to the backdrop and drop the pixel on the backdrop.

Carl Ott

7:55 PM

That match was around 115 or 118 - versus prior match was in the 40 to 60 range. Benefited from finally getting time to code.

next steps - automating more of the time-consuming tasks currently required by the driver

Carl Ott

7:57 PM

~7:56pm - showed new mechanical concept - lots of carbon fiber - tons of sensors. Plan to give the robot a motivation that is aligned with the human/ driver motivation. So that the Robot is acting on its own motivation all the time.

Ray Casler

7:59 PM

can we call that an occupancy grid?

Mickey Dean

7:59 PM

impressive work Jai and team

I wish I got into robotics at your age, your future is bright.

Carl Ott

8:00 PM

The idea is to make it so that even if the driver sets their controller down - the robot will continue attempting to pick up pixels, translate or drop pixels. OR - the driver is able to override or nudge the robot somehow...

Jim F - CalgaryAB

8:05 PM

Hello from Calgary

Carl Ott

8:05 PM

Current Queue for those who've recently joined.

Jai – Iron Reign / longer one Doug D – Literal Smoke Test Carl – shorter item – Tesla FSD V12 Carl- CES 2024 Open mic

Mickey Dean

8:10 PM

I got to admit, I am confused how having a driver control it would throw off odometry more than automated mode

Jim F - CalgaryAB

8:10 PM

Do they use magnetic compass? What type? How reliable?

Iron Reign

8:11 PM

There is a 3 DOF magnetometer in the imu. we don't use it.

Mickey Dean

8:12 PM

i can't see how it would throw off odometry.

that is what i thought.

Maybe, I misunderstood someone's point then.

Mickey Dean

8:16 PM

Karim, nice setup

Carl Ott

8:16 PM

~8:12pm - discussed how mix Operator command 'motivation' with autonomous commands -> Iron Rein plans to implement a hard cutover - so that operator commands fully Subsumes autonomous commands.

Mickey Dean

8:18 PM

thanks Brad, which helps clear up your point

Mickey Dean

8:21 PM

when is the world comp?

lol

Carl Ott

8:21 PM

Jai - timing for rest of season - tournament next Saturday - either to semi-regionals or regionals - then state - then hopefully world again. (circa late April)

Mickey Dean

8:22 PM

I am so jealous I never got into engineering when at that age.

So jealous of what lies before you,

impressive work Iron Reign.

Carl Ott

8:22 PM

~8:21pm - Karim raised chance for DPRG members to participate in Judging...

Iron Reign

8:23 PM

Need FTC judges.

Mickey Dean

8:23 PM

jai, good luck this weekend

Iron Reign

8:23 PM

U League Tournament on Feb 3rd

Jai Sammpath

8:23 PM

Thank you, Mr. Dean!

Iron Reign

8:23 PM

Semi Regional Tournament on Feb 10th

Carl Ott

8:24 PM

~8:23pm - Doug D did a live - first time ever - smoke test - ON CAMERA - REAL TIME - Nothing Smoked!

Mickey Dean

8:24 PM

lol Doug.

Iron Reign

8:25 PM

Regional/Area Championship on Feb 24

Mickey Dean

8:25 PM

I am woefully lacking fuses, only have them at the battery.

Carl Ott

8:25 PM

~8:25pm - Carl shared short & long update.

- Tesla FSD V12 o Brace for interesting. This comment caught my eye: Tesla writes in the release notes of the latest update: o "FSD Beta v12 upgrades the city-streets driving stack to a single end-to-end neural network trained on millions of video clips, replacing over 300k lines of explicit C++ code." o <https://electrek.co/2024/01/22/tesla-releases-fsd-v12-last-hope-self-driving/>

o I keep thinking of how challenging it is to write "high coverage" test queues - And then I think about the fact that these neural nets are basically trained on zillions of Humans and Reinforcement Learning labeled test outcomes...

Mickey Dean

8:26 PM

what!

wow

They do have impressive data.

Mickey Dean

8:27 PM

They have collected a lot of data.

I suspect it is easier to avoid other cars and pedestrians that are dealing with language.
than

Mickey Dean

8:29 PM

lol

that is crazy.

Mickey Dean

8:30 PM

yeah, that is fundamental.

lol Ray

Pat C

8:30 PM

Will it let you roll the window down and use hand signals?

Mickey Dean

8:30 PM

Chris and Ted, glad to see you on...hoping for updates from you both SOON.

Carl Ott

8:31 PM

• Maybe it's not whether automation is 'good enough' • Maybe the real question is whether I'd rather trust o Humans coding and training robot neural nets behind the steering wheel o Vs o Humans neural nets behind the steering wheel • Another take <https://youtu.be/N9bJLDAAQxc>

Mickey Dean

8:32 PM

Ted, I want to pester you one day soon about adding encoders to rc motors without extended shafts, and Chris your RPLIDAR journey is something I want to see more of

Carl Ott

8:33 PM

Pat - it will let me open the door (most of the time - but not during a software update!) - and I can absolutely use hand signals - although it will gripe if I don't move my head or eyes enough "TAKE CONTROL IMMEDIATELY"

Carl Ott

8:34 PM

~ 8:34pm – Carl shared photos, videos and thoughts from a trip to Consumer Electronics Show – CES 2024 in Las Vegas

Mickey Dean

8:39 PM

yes

Carl Ott

8:45 PM

The Sphere Tech Details <https://www.techradar.com/pro/the-worlds-most-powerful-camera-sensor-is-used-for-only-one-thing-feeding-the-sphere-of-las-vegas-with-316-million-pixels-at-120-frames-per-second>

Harold Pulcher

8:58 PM

build your own sphere: https://youtu.be/l0WGbm9_4Q

Pat C

8:58 PM

Will 640KB still be enough?

Jack

9:04 PM

I've got to go. See you all later.

Carl Ott

9:14 PM

About the BMW Augmented Reality Collaboration w/ XReal Glasses Just back from CES... I was too late to secure a test drive, but the BMW booth had an interesting display showing concept collaboration with XReal glasses

- <https://www.amazon.com/gp/product/B0CHVQWW4P>. Here's a review <https://www.msn.com/en-us/lifestyle/shopping/i-tried-bmw-s-augmented-reality-glasses-and-they-re-the-future-of-in-car-navigation/ar-AA1mUxQz> FWIW - also noticed these XFlip glasses - still available on Kickstarter

FWIW - also noticed these XFlip glasses - still available on

KickStarter. <https://www.kickstarter.com/projects/hktopsky-vicky/xflip-chatgpt-powered-ar-glasses>

Brad Garton

9:27 PM

<https://hlmando.com/en/solution/robot/parkingrobot.do>

Parking Robot

Carl Ott

9:31 PM

Ballie <https://arstechnica.com/gadgets/2024/01/samsungs-ballie-home-robot-is-back-way-bigger-and-headed-to-production/>

Blue

9:33 PM

Sometimes less is more.... they drove Carl (and the rest of us) to their website!

Harold Pulcher

9:34 PM

<https://youtu.be/68YMEmaF0rs>

Carl Ott

9:34 PM

Blue - exactly!

Carl Ott

9:36 PM

~9:34pm - Harold gave an update - a Disney Imagineer - Lanny Smoot

Carl Ott

9:38 PM

Won a Disney achievement award that only Walt himself won previously - The video shows lots of cool things - including "Holographic Tiles" <https://www.youtube.com/watch?v=68YMEmaF0rs>

Carl Ott

9:41 PM

~9:40pm - Pat showed a boiler log feeding robot?

Pat C

9:42 PM

<https://www.youtube.com/watch?v=rv6zi89kFFU>

Blue

9:50 PM

<https://www.dprg.org/dprg-annual-meeting-for-2024-february-10-2024/>