

## DPRG RBNV Chat Record – August 13,2024

00:01:45.568,00:01:48.568

Carl Ott: ~7:42pm - Abe introduced himself and his son also. Interested in exploring DPRG & learning together.

00:02:19.568,00:02:22.568

Mickey Dean: welcome to the group Abe and Tito

00:04:30.605,00:04:33.605

Carl Ott: Reminder - Saturday 24 Aug is DPRG's next monthly meeting - members Doug and Jon will present on 3D printing.

00:05:35.600,00:05:38.600

Paul Bouchier: Harold loves his Bambu 3D printer - best thing since sliced bread

00:09:59.421,00:10:02.421

Mickey Dean: Tito, this group has a Discord server

00:11:20.825,00:11:23.825

Pat Caron: presenters

Abe

Ray

Tom

Paul

Ted

00:11:58.682,00:12:01.682

Carl Ott: ~7"52pm - Ray showed progress with his cone detector image pipeline.

00:13:35.970,00:13:38.970

doug paradis: training cone is 18"

00:14:19.084,00:14:22.084

Ponder SomeMore: the registration link for this weekend's flyset workshop at UTD:

00:14:19.731,00:14:22.731

Ponder SomeMore:

<https://docs.google.com/forms/d/e/1FAIpQLSfJZhEMsGwclE398bws2yfkZK8W7UqFyetH2cgbfYdAPk3wdw/viewform>

00:14:39.416,00:14:42.416

Abe M: Thank u for the link

00:15:31.903,00:15:34.903

Paul Bouchier: Ray's results reflect the distance/size of image he's trained on - doesn't detect partial codes (seen from too close) or cones that are too far away from what it was trained on. So, he has a sweet spot. Does a good job of not getting fooled by other orange objects (orange tape, etc.).

00:21:20.315,00:21:23.315

Chris N: What's the list of affordable "ai cameras" in use by this group? I.e. The likes of OpenMV, Pixy/Pixy2, etc.....

00:26:23.159,00:26:26.159

Mickey Dean: Chris, by affordable I assume the Oak D Lite and the Intel Real Sense are too pricey?

00:27:34.603,00:27:37.603

Mickey Dean: well, those are depth cameras with some AI, you might be more interested in a single lens with AI

00:27:46.690,00:27:49.690

Ted Meyers: OpenMV is my current favorite, but what Ray has looks cool -- I ordered one, but waiting to get it

00:28:22.098,00:28:25.098

Carl Ott: I think Abe raised his hand - then I have something to sneak in also

00:28:31.028,00:28:34.028

Ted Meyers: OpenMV isn't really AI, at least not mine

00:28:55.814,00:28:58.814

Carl Ott: Ted - could you put a link to that in the chat - reference for what Ray just showed?

00:30:37.518,00:30:40.518

Ponder SomeMore: Link for the camera Ray was just demoing?

00:30:42.498,00:30:45.498

Ted Meyers:

[https://www.aliexpress.us/item/3256806809995432.html?spm=a2g0o.order\\_list.order\\_list\\_main.5.5394180258EbHJ&gatewayAdapt=glo2usa](https://www.aliexpress.us/item/3256806809995432.html?spm=a2g0o.order_list.order_list_main.5.5394180258EbHJ&gatewayAdapt=glo2usa)

00:30:50.953,00:30:53.953

Chris N: My definition of affordable is <\$200.

00:31:19.270,00:31:22.270

Ted Meyers: that's a Sipeed MaixCAM

00:31:53.337,00:31:56.337

Ted Meyers: Try this:

[https://www.aliexpress.us/item/3256806809995432.html?spm=a2g0o.order\\_list.order\\_list\\_main.5.5394180258EbHJ&gatewayAdapt=glo2usa](https://www.aliexpress.us/item/3256806809995432.html?spm=a2g0o.order_list.order_list_main.5.5394180258EbHJ&gatewayAdapt=glo2usa)

00:32:04.208,00:32:07.208

Abe M: <https://www.dollartree.com/playground-cone-set-2-pk/365971>

00:34:28.661,00:34:31.661

Ted Meyers: OpenMV Cam H7: <https://openmv.io/products/openmv-cam-h7-r2>

00:34:45.506,00:34:48.506

Carl Ott: this is the 18" cone I've used in the past to practice for RoboColumbus - \$18.27 at Home Depot - will last forever with our robot use pattern

<https://www.homedepot.com/p/18-in-Orange-PVC-Flow-Molded-Cone-HDFM18/308848264>

00:43:17.711,00:43:20.711

Paul Bouchier: Doug suggested maybe we should have a Da Vinci award for RoboColumbus, for a novel idea

00:45:14.168,00:45:17.168

Paul Bouchier: Idea: all competitors would be able to nominate who they think should receive the Da Vinci award, and if one robot receives 60% plus of votes, they get the award.

00:45:52.704,00:45:55.704

Harold Pulcher: I would like to have my 3rd place award certificate to be applied to my yearly DPRG dues.

00:46:26.575,00:46:29.575

ed mart: 1CAD = 0.729554 USD

00:49:48.305,00:49:51.305

Paul Bouchier: Gary T is in Calgary, member of a Makerspace there, heard about DPRG and is checking the group out

00:54:00.458,00:54:03.458

Carl Ott: ~8:34pm - Tom showed an outdoor rover he's working on - upgrading a "bang-bang" R/C car to proportional Ackerman steering. Using it as a testbed...

00:54:19.367,00:54:22.367

Paul Bouchier: TomC is using a toy 1/10 scale platform that he's turning into an outdoor robot

00:55:56.907,00:55:59.907

ed mart: Tom, is that a grave digger chassis from New Bright RC toy ?

00:57:26.016,00:57:29.016

Paul Bouchier: Tom hopes it will become his RoboColumbus robot. He's put a bunch of sensors on the platform.

01:00:56.619,01:00:59.619

Paul Bouchier: Doug advised that bang-bang steering is not that big of a disadvantage as you might think for RoboColumbus - starting from 100 yds away it can zig-zag a lot and still get close enough for camera or object detector

01:05:31.685,01:05:34.685

Chris N: micro python supports threads

01:05:42.474,01:05:45.474

Chris N: circuit python on the other hand supports floating point I believe...

01:07:56.073,01:07:59.073

Chris N: VS Code + Copilot is the way to go for python....

01:09:15.560,01:09:18.560

Gary T: VS Code with the (older version) of the Circuit Python Extension works pretty good.

01:09:34.541,01:09:37.541

Gary T: I still want to get back to C at some point.

01:11:57.708,01:12:00.708

Carl Ott: ~8:51pm - Paul shared (in a non-thunder stealing way) an update on 3D CAD design. He's been teaching himself OnShape. Paul showed his first attempt at designing something in 3D CAD. Has 2 3D Printed Part sand a few other parts

01:13:59.974,01:14:02.974

Carl Ott: Learned how to make 3D parts from 2D sketches, combine them into assemblies and move the parts with respect to one another

01:14:49.084,01:14:52.084

Carl Ott: This was a bumper design

01:18:07.869,01:18:10.869

Blue Steel: <https://www.mcmaster.com/products/torsion-springs/>

01:18:51.134,01:18:54.134

Blue Steel: McMaster-Carr has 3D models of hardware you can download and use in your designs.

01:22:51.156,01:22:54.156

Ponder SomeMore: Paul, if you want feedback on your design, let me know on discord

01:23:57.883,01:24:00.883

Paul Bouchier: Roger Karim, thanks!

01:24:53.930,01:24:56.930

Carl Ott: ~9:04pm - Ted showed progress with his outdoor robot. Bumper sensor toggling a light.

01:25:00.699,01:25:03.699

Ponder SomeMore: I underestimate odometry all the time

01:25:27.631,01:25:30.631

Paul Bouchier: misunderestimate???

01:25:39.109,01:25:42.109

Ponder SomeMore: it's a George Bush reference

01:26:09.222,01:26:12.222

Ponder SomeMore: or were you calling out my spelling?

01:26:22.390,01:26:25.390

Carl Ott: ha! that explains quite a bit about my odometryestimation attempts...

01:28:06.333,01:28:09.333

Mickey Dean: Ted, not many RC cars could go upstairs like YOURS

01:32:50.034,01:32:53.034

Carl Ott: ~9:12pm - Harold gave an update of a CAD tool - a PCB editor (KiCAD). Was lamenting the lack of consistent CAD interfaces...

01:34:55.581,01:34:58.581

Ponder SomeMore: go to Disneyland?

01:42:43.250,01:42:46.250

doug paradis: JLCPCB: <https://jlcpcb.com/help/article/16-How-to-generate-Gerber-and-Drill-files-in-KiCad-6>

01:45:57.829,01:46:00.829

Carl Ott: Karim thanks for lifting the lid on pandoras box (or Wikipedia and Spotify in this case). Seems that a crazy number of song titles exist about underestimate... But most appear to be after the Bush quote in Y2K... hmmm. According to infallible Google AI - "misunderestimate" has been used since at least 1857...

<https://www.google.com/search?q=misunderestimate+etymology>

01:52:56.864,01:52:59.864

doug paradis: KiCAD on shaped boards: <https://www.youtube.com/watch?v=rhqlP8CRct0>

01:53:47.752,01:53:50.752

Paul Bouchier: underestimate (third-person singular simple present underestimates, present participle underestimating, simple past and past participle underestimated)

(nonstandard, malapropism or humorous) To underestimate mistakenly or wrongly; to misestimate with an error on the lower side.

Usage notes

As with the derivative underestimation, this is now usually, though not always, employed in jocular reference to former US President George W. Bush.

01:57:12.747,01:57:15.747

Gary T: Shameless plug if anyone is in Calgary to check out our Makerspace [www.protospace.ca](http://www.protospace.ca)

02:00:01.932,02:00:04.932

Mickey Dean: it is weird I only get a green screen when Ray is presenting

02:00:30.047,02:00:33.047

Mickey Dean: this happened last week, but it was every presentation, tonight it is just Ray's, weird

02:00:34.256,02:00:37.256

Carl Ott: Thanks for the invite Gary

02:01:01.484,02:01:04.484

Pat Caron: Ray's presentation looks OK to me

02:01:13.737,02:01:16.737

Mickey Dean: yeah, it is likely my connection

02:01:24.537,02:01:27.537

Paul Bouchier: Ray showed Tinkercad - from Autodesk - simple to use 3D CAD program.  
Harold seconded the recommendation - easy to use

02:01:36.603,02:01:39.603

Mickey Dean: just weird the other presentations were fine, but both of Ray's have only been a green screen for me

02:02:16.330,02:02:19.330

Carl Ott: Mickey - I haven't seen that with Rays screen. Sometimes my browser screens change to black briefly (especially during Google Meet) - but I'm pretty sure that's just me asking too much of this machine

02:02:38.957,02:02:41.957

Mickey Dean: I could be asking too much of mine too

02:03:54.519,02:03:57.519

Carl Ott: I can mitigate my local issues by changing all three displays from 4K to 1080p. That makes it feel like the difference between windows 3.1 and Windows 7 or 10...

02:12:02.724,02:12:05.724

ed mart: Carl, think stainless!

02:12:28.106,02:12:31.106

Gary T: Good question. Some motors turn slightly different forward and back

02:12:41.869,02:12:44.869

Mickey Dean: Pat what size wheels are those

02:13:14.360,02:13:17.360

Mickey Dean: wow

02:13:15.450,02:13:18.450

Carl Ott: ~9:52pm - Pat asked about a differential drive robot - would it be better to set up the drivetrain for motors to turn in the same direction or not. Karim and Gary indicated that differences could exist - might be helpful.

02:13:31.390,02:13:34.390

Mickey Dean: i like the knobby tires

02:20:23.732,02:20:26.732

Carl Ott: Ed - stainless - like the Cybertruck - where some people are mirror-polishing their trucks to make very dangerous road hazards... I like stainless. But I like Corten steel also - especially for its rustic appearance and because it came from US Steel - my dad's employer. Corten has the property that it does very well with repeated wet and dry cycles. It's rust forms in a way that looks good and minimizes further rust. Check this out <https://www.plantercraft.com/blogs/corten-steel-advantag>

02:22:57.833,02:23:00.833

Carl Ott: of course, when they built the US Steel tower in Pittsburgh while I was a toddler, they clad the building in Corten steel.

As I recall, building rusted all over everything around it for a while until it formed its protective layer...

02:25:42.762,02:25:45.762

Mickey Dean: Paul go with Axial

02:25:49.527,02:25:52.527

Carl Ott: ~10:06pm - Paul reviewed 1/10 scale RC Crawlers - a wide range starting at \$75 and heading north of \$399...

02:26:04.345,02:26:07.345

Mickey Dean: Traxxas is very proprietary

02:26:55.756,02:26:58.756

Mickey Dean: Capra is another 4WS

02:27:11.689,02:27:14.689

Mickey Dean: I just think Axial has better aftermarket parts

02:29:32.346,02:29:35.346

Mickey Dean: for 4WS you likely will spend closer to the 500.00

02:34:49.745,02:34:52.745

Pat Caron: Doug, can you run the RoboColumbus course with a drone? I didn't really see any rule preventing a flying robot

02:35:28.170,02:35:31.170

Mickey Dean: Pat, you know you should not make a drone out of wood, though, right?

02:36:22.474,02:36:25.474

Ponder SomeMore: could, should, would do wood

02:36:26.932,02:36:29.932

Mickey Dean: lol

02:36:37.915,02:36:40.915

Carl Ott: I'd like to see a flying wooden drone! Something more autonomous than the 6-foot balsa planes I built some years back...

02:37:06.266,02:37:09.266

Carl Ott: like Karim said

02:37:33.724,02:37:36.724

Mickey Dean: i have almost as much wood planned for my mower as it has metal, at least initially.

02:38:49.700,02:38:52.700

Ponder SomeMore: here is a rules question. do you get the no GPS points if you use GPS rtk before the run as a way of calibrating your odometry for Steve's terrain?

02:38:56.706,02:38:59.706

Carl Ott: Good thing about wood - it doesn't rust.

02:39:02.172,02:39:05.172

Mickey Dean: lol

02:39:09.588,02:39:12.588

Pat Caron: I'll see you all next week

02:39:52.782,02:39:55.782

Carl Ott: Karim - back to misunderestimating odometry again...

02:40:29.777,02:40:32.777

Mickey Dean: Paul, how much longer for your vacation

02:41:02.439,02:41:05.439

Gary T: I need to head home. Great meeting. I hopefully will be able to catch a couple more in the future.

02:41:13.268,02:41:16.268

Mickey Dean: tc Gary

02:41:18.104,02:41:21.104

Mickey Dean: nice to meet you

02:42:56.399,02:42:59.399

Mickey Dean: Karim, are you using RTK2Go?

02:45:31.969,02:45:34.969

Ponder SomeMore: yes