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MEETING TRANSCRIPTION

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TRANSCRIPT WITH TIMESTAMPS:

[00:51 - 00:52] Okay.

[00:57 - 00:58] Hey, Joe.

[01:06 - 01:18] I'm going to share my screen.

[01:22 - 01:25] I think we should have access for your IP as well.

[01:27 - 01:33] I was just talking to Joe and I guess he hasn't reached out to Madagascar yet.

[01:33 - 01:40] So one of the things that Madagascar does for us is they build up these CVAT jobs that are then committed to the Taters.

[01:44 - 01:57] So thus far we've needed a lot of jobs but I guess one sort of area where we haven't done enough annotating is for when players are actually like picking actions of their pass in the puck or shooting the puck.

[01:59 - 02:06] You'll see the stick kind of speed up and the model is kind of struggling with that a little bit when it like on shots and passes and things.

[02:06 - 02:13] So the next jobs are going to try and capture more actions and we don't have that match of jobs yet.

[02:13 - 02:21] But these are jobs that have already been completed somewhat in the process of auditing them.

[02:33 - 02:43] So each job typically has roughly like 20 frames or so and the model spits out what it thinks is the poses mission of each player on the ice.

[02:45 - 02:57] So when you first get it it's interesting like the model will sometimes think that like a player is a person in the crowd is player over the referees player as part of the job is to clean up the data in that sense.

[02:58 - 03:09] And then Chio has like a pretty defined position for where he wants all these key points.

[03:11 - 03:20] And we can again like there'll be plenty of feedback throughout the process as far as like where we do want the key points to be.

[03:23 - 03:37] The model does a pretty good job but so this has already been like edited except under our annotator either here or that a guest or so it's like much better little tighter to where we want it.

[03:39 - 04:06] But I think so you would get this batch that the model spits out and you go through first you clean up and get rid of some like false positives and then I found the best way is you kind of hide all the properties and then just like select one player and go through all the frames for each player.

[04:07 - 04:22] So you're kind of like moving the elbow here and here. One big thing is I think I mentioned on the color earlier it's just like making sure that the player's face is looking the right direction so you have their nose and their ears.

[04:22 - 04:33] So you had a tated here and that sort of vector is like pointing towards the puck. I think Chio thinks that that will help the model be the track where the puck is because the player's are to put the puck.

[04:35 - 04:51] It's pretty wild. It does like a really good job out of the box and then once it gets touched by our annotators it's pretty cool so you can sort of go through a frame to literally just looks like a 3D sort of model of the player's key.

[04:51 - 05:13] I think the hope is once these frames are annotated you'll be able to generate actions and positions on the nice and both jersey numbers all sorts of different cool things that are helpful.

[05:13 - 05:29] Yeah, I've done some work with like just in Python with like a yellow model doing this similar thing but it's just so hard to do it from a hockey broadcast just because so far out of the view and stuff like that.

[05:29 - 05:32] Yeah, this is much more accurate, which is cool.

[05:32 - 05:43] So what's this yellow program? I just found it online. I kind of did like many projects on it. I post a lot of projects on LinkedIn and stuff.

[05:44 - 06:00] Right. And so I did kind of big dive into an offseason report on a player and I ended up being able to overlay the skeleton onto the player but it didn't give me the option to like this program where you could manually move the points.

[06:00 - 06:12] It just kind of shot out an ankle estimation, the estimation kind of thing but it was a rough draft. Yeah, it was a rough draft but it was cool to do anyways.

[06:13 - 06:19] Nice. Yeah, that's how that's how they get happy right now. Is it like 10 or your post-alcohol content?

[06:19 - 06:34] Yeah, I think how she found me was I did like she posted for the four nations Canada and USA's data on Twitter and so I took that data and just did a quick project and I think that's where she found my stuff.

[06:34 - 06:35] Very cool. Yeah.

[06:37 - 06:46] Yeah, it was really fortunate. There was my 10th year at the company last year and the old took everybody that was with the company for 10 years to four nations with them.

[06:46 - 06:47] Oh wow.

[06:50 - 06:57] So we had awesome seats. I was like right in front of a dating school. That goal was crazy. That's lucky. It seems like I went to the lifetime opportunity.

[06:58 - 07:01] It was. I feel like I never get to go to those like...

[07:09 - 07:12] It's good example of how well staffed streets. Yeah.

[07:14 - 07:20] It was nice to like put us up in a total of two cents saying we would tell a little bit like that and then all the players were staying at.

[07:21 - 07:24] I was literally grabbing coffee in the morning and that was trying to figure out the rest of it.

[07:26 - 07:27] It was funny.

[07:27 - 07:30] It was like what was going on this year.

[07:31 - 07:35] Anyway, so yeah, that sounds like you have some experience with this kind of stuff.

[07:35 - 07:35] Yeah.

[07:40 - 07:45] There's all sorts of like sort of tricks like I think this one.

[07:47 - 07:49] So see these two players here? Yeah.

[07:50 - 07:53] It's two Seattle players that they end up like kind of crossing over each other.

[07:53 - 07:57] I think the model actually drops one of the players.

[07:58 - 07:58] Oh yeah.

[07:59 - 08:01] I know it's actually one of the people that tell me.

[08:02 - 08:06] So this player here doesn't have a model for it.

[08:08 - 08:15] So that would be part of the process would be to sort of clean up, make sure each player has representation.

[08:17 - 08:18] You're a each right.

[08:19 - 08:25] So in this example, would it be like where we are then adding the model onto shorts?

[08:26 - 08:27] I think so.

[08:27 - 08:32] Yeah. So there's a way that you can like, so here in the left are you going to see if you do that stuff?

[08:32 - 08:32] Yeah.

[08:34 - 08:42] So over here in the left you can draw a new skeleton, a shape, which lets you kind of just put in a new object.

[08:42 - 08:43] Oh.

[08:44 - 08:46] A little creepy little insect looking.

[08:46 - 08:50] And then or you can do a track.

[08:50 - 08:55] So a track, if I build a track here, it just stays throughout all the frames.

[08:57 - 09:03] Whereas if I build a shape, it only stays for this particular frame.

[09:06 - 09:08] And I should just come up the other day.

[09:08 - 09:12] So you can see there's all these tracks over here that are tracked with player throughout.

[09:12 - 09:23] So it doesn't matter if on a particular frame, like this track drops out and you build a shape for somebody, it's not like considering frame to frame.

[09:24 - 09:29] The model is really just looking at each frame as a human sort of thing.

[09:29 - 09:39] So making sure that they're all in the same crack, like I was trying to mess around with like merging tracks and like making sure the object that was consistent throughout each frame, but it's not necessary.

[09:39 - 09:40] So it makes it a lot easier actually.

[09:41 - 09:45] So this shorts one, you could literally just build a shape.

[09:45 - 09:47] If you was only missing on this frame, you could just build the shape.

[09:48 - 09:54] You'd kind of like see them in here and then head it as best you could for that particular frame.

[09:55 - 09:59] And you can create a track around it and get shorts when you're missing for a couple frames.

[09:59 - 10:08] You might just like build it when you finally see that he's a new posistation and then keep adjusting throughout.

[10:08 - 10:17] I've found that's what takes a long time is when you're like not snapped to what the model thinks takes like a little more time to sort of make more adjustments.

[10:20 - 10:21] Yeah.

[10:23 - 10:30] So we would have proper like a batch of like six or seven of these per annotator.

[10:31 - 10:34] I'm honestly not entirely sure what the workflow is going to look like again.

[10:34 - 10:41] Like I kind of just started this role with Joe maybe just under two weeks ago.

[10:41 - 10:46] So I'm trying to start offload some of the work for him so he can focus on other things.

[10:46 - 10:49] So I'm learning this process as well as we go.

[10:49 - 10:53] But it's pretty neat though.

[10:55 - 11:01] So as you guys is like you obviously have a puck tracking model as well.

[11:02 - 11:03] I'm so sorry.

[11:03 - 11:05] I'm going to switch these here but I'll keep dropping it.

[11:22 - 11:23] Okay.

[11:24 - 11:25] I think I've got you.

[11:27 - 11:29] Oh, I'm just curious.

[11:29 - 11:35] You guys obviously have a puck tracking model as separate from this kind of thing, right?

[11:36 - 11:38] It's close.

[11:41 - 11:42] I actually think it is.

[11:45 - 11:47] I think that one is done in Q.

[11:47 - 11:49] Let me see if I can pull that up too.

[11:54 - 11:56] It's just like a different configuration program.

[12:04 - 12:06] I don't think I have any.

[12:07 - 12:08] I have any camera.

[12:09 - 12:10] I don't think I'll be pressured.

[12:37 - 12:39] I know one more.

[12:43 - 12:46] I think I'm going to be using some of the camera.

[12:46 - 13:09] I think there might be a project to do some annotating there.

[13:18 - 13:21] I think the puck model is done in Q.

[13:22 - 13:23] I know I was just curious.

[13:25 - 13:27] That one is interesting too.

[13:28 - 13:34] That's another thing I'm working on right now is we're going through the puck model and seeing where it fails.

[13:34 - 13:38] It's crazy how many images we're using for some models.

[13:39 - 13:45] 20,000, 30,000 images that I'm scrolling through and finding failures and pulling them out of the model.

[13:46 - 13:47] I was talking to John.

[13:47 - 13:52] He's pretty adamant that our puck model is really strong right now.

[13:52 - 13:55] It's any more data that we feed to it really has to be good data.

[13:55 - 14:05] I guess he was like, make the point that basically one bad image is worth 100 or 200 good images.

[14:06 - 14:11] When you have those images that mess with your model, they can really set it back.

[14:14 - 14:18] It sounds like a really important part of the machine learning process.

[14:18 - 14:27] It's just making sure that the data that you're feeding in is good, which is where annotators and my audits come in.

[14:28 - 14:31] It's as clean as possible to make sure the quality is good.

[14:31 - 14:32] It's doing great.

[14:35 - 14:40] Yeah, I'm not sure as far as doing more puck model tracking.

[14:41 - 14:42] I'm not sure where around that.

[14:42 - 14:54] I know he does want to do more, but I think right now I'm kind of an evaluation stapler going through and looking at images that have already been annotated by some other people on our team.

[14:55 - 14:56] It's weird.

[14:56 - 15:02] We have so many different computer vision models in the works and they're at various stages of deployment.

[15:02 - 15:05] It seems like this post-institutional.

[15:06 - 15:13] That and are getting an update for the puck tracking models next time.

[15:13 - 15:20] So are you primarily working on just this modeling side of things?

[15:21 - 15:28] Do you have anything to do with the actual Hawkees specific side of things for what you kind of provide to the clients I guess?

[15:28 - 15:28] I'm trying to say.

[15:29 - 15:30] Yeah, I don't for sure.

[15:30 - 15:30] Yeah.

[15:32 - 15:38] So the past five or six years I've been working as a shift manager, sort of overseeing or eventing.

[15:40 - 15:49] So I'd be working nights and handling this staff that's sort of eventing games for our various clients.

[15:51 - 15:55] And it honestly just didn't really work with my schedule.

[15:55 - 16:00] And I felt like I had done a great job with it, but I was kind of looking for something new.

[16:01 - 16:09] And this was like an exciting part of the company that seemed to all the person interesting personal growth options for me.

[16:09 - 16:12] So I was excited to start taking on the world.

[16:12 - 16:16] And then I'm also during the day, like working days now.

[16:18 - 16:23] Working nights would have been a challenge with my wife's schedule, like with a newborn on the way.

[16:23 - 16:24] Because she's like on calls.

[16:25 - 16:29] So if I was working till like two in the morning, gambling the West Coast game, and she gets called out,

[16:29 - 16:36] we'd always kind of have to have like a contingency plan for the evening at like crazy hours.

[16:36 - 16:40] So it's really going to be hard to make that work.

[16:40 - 16:43] So the schedule and the change kind of works well for me as well.

[16:44 - 16:51] But yeah, pretty much everybody with the company has gone through all stages.

[16:51 - 16:54] Like I've done pretty much everything.

[16:54 - 16:56] I've been back to the shift tracks.

[16:57 - 16:59] Like I said, the company's its management.

[16:59 - 17:01] I was doing a lot of HR stuff several years ago.

[17:01 - 17:04] I'm sort of transitioning into this role.

[17:04 - 17:08] So yeah, been bouncing around.

[17:10 - 17:18] So yeah, like I said, Joe was working on getting some of these jobs ready.

[17:18 - 17:25] And I want to talk to him to just how much training and oversight we need.

[17:25 - 17:28] I feel like I could almost just throw even to a couple of jobs.

[17:29 - 17:34] And with the expectation that early on, you'll be like a little bit more feedback as far as like

[17:35 - 17:43] being a stickler for a compare point to being put in and then being kind of fine like a good flow to get the hang of it.

[17:43 - 17:45] I truly think that especially with your experience,

[17:46 - 17:48] messing with this position,

[17:48 - 17:50] this mission of the past that we picked up so quickly.

[17:51 - 17:51] Yeah, yeah.

[17:52 - 17:58] I think my only main challenge first will be getting introduced to see that and everything like that.

[17:58 - 18:02] But I'm sure after a day or two, I'll have a good understanding.

[18:03 - 18:07] Yeah, now there's a few weird things like I said, like merging the shapes and stuff.

[18:07 - 18:13] There's a few like the key points, but like I'd always be available to you.

[18:13 - 18:16] Like if you want to hop on a collar, just like shooting a slack and I said it through questions.

[18:17 - 18:22] And if you have to help you out, you said you would clock by my back so say.

[18:22 - 18:23] Yeah, yeah.

[18:23 - 18:28] I kind of think there's like other on-bowings step like add inside that we need to cover.

[18:28 - 18:32] Like feel free to throw in some like an hour or so.

[18:32 - 18:38] I'm sure I will run the phone today with feel free to throw in some time for our meeting today.

[18:39 - 18:45] If you pull it up, do you know if you have access to like meetings and stuff

[18:45 - 18:50] and then different accounts and different access to like what you can add for time?

[18:51 - 18:53] I sure you can be talking the right.

[18:56 - 18:59] Yeah, yeah, everything looks like it's good to go.

[19:00 - 19:01] Yeah, okay.

[19:01 - 19:02] Yeah.

[19:02 - 19:02] Yeah.

[19:04 - 19:07] Do you have any other questions for me here?

[19:08 - 19:09] No, I don't think so.

[19:10 - 19:15] I guess obviously once we get going, everything will kind of fall into place.

[19:16 - 19:20] I guess my only question would kind of be like,

[19:21 - 19:30] I would just kind of say on my main first day of starting working with the program and everything like that.

[19:31 - 19:36] So I just go in and there'll be a certain amount of frames for me to go through.

[19:37 - 19:43] And then that just mean my main task for the day kind of or how just kind of how does that work?

[19:43 - 19:43]

[19:44 - 19:44] I know you say that.

[19:44 - 19:47] I think we have certain amount of hours or something.

[19:47 - 19:53] Yeah, so I think we are a lot of 20 hours a week for you.

[19:54 - 19:54] Yeah.

[19:54 - 19:59] And yeah, so I think it will probably look something like this.

[19:59 - 20:01] I think I'm on Joe's accounts.

[20:01 - 20:02] I have access to all the jobs.

[20:03 - 20:06] So just you would have your own personal account on the C-Bad app.

[20:07 - 20:12] And I'm assuming that it would just have like each of these jobs is like 20 frames or so.

[20:12 - 20:14] And you hop in there and you get a lot of space.

[20:15 - 20:17] The whole list of patients.

[20:17 - 20:18] So you would work through that.

[20:19 - 20:22] And when you get the job, it's been high touch.

[20:22 - 20:24] So it's just a lot of space.

[20:24 - 20:28] And then you would update it and you kind of save as you go.

[20:30 - 20:33] I think I'm going to be tracking it in Excel.

[20:34 - 20:38] Or at least that's how Joe and his team were doing in the past.

[20:38 - 20:44] I'm sure there's probably a way to sort of clean that up and make it a little more optimized.

[20:49 - 20:49] But yeah.

[20:50 - 20:51] Okay, sounds good.

[20:52 - 20:55] Yeah, so once you will, we'll make sure you have a log in to C-Bad.

[20:56 - 21:00] And then you can log in and I'm pretty sure it'll just have a list of the jobs that you can work towards.

[21:01 - 21:01] Okay.

[21:02 - 21:02] Yeah.

[21:03 - 21:03] Okay.

[21:03 - 21:08] And I'm thinking like probably trying to get you some feedback.

[21:08 - 21:10] At least we agreed to start.

[21:10 - 21:14] Except probably a little bit more frequent just until we get rolling.

[21:15 - 21:17] I'm sure you'll like it.

[21:18 - 21:19] Yeah, yeah.

[21:19 - 21:24] I know once we get going, definitely feel free to throw projects at me.

[21:24 - 21:26] Like I'm open to a amount of hours.

[21:26 - 21:27] So awesome.

[21:28 - 21:29] It's awesome.

[21:30 - 21:34] Yeah, I haven't even seen what a new batch of projects look like.

[21:34 - 21:35] So it's kind of new to use one.

[21:36 - 21:44] I know Joe said he's going to make it a priority to get this new batch of frames that are going to account for actions a bit better.

[21:44 - 21:46] And he needs to get that to Madagascar.

[21:46 - 21:48] They're going to build the project for us.

[21:48 - 21:52] And then I think they sent it to us and then I can probably just assign it to whoever.

[21:53 - 21:57] So with you on 20 hours of your psychosign, you'd have to sign up for projects.

[21:59 - 22:00] Okay, sounds good.

[22:01 - 22:05] I will let you know that because I think it might take a day or two for them to turn around the project.

[22:05 - 22:07] And I know he still hasn't sent it yet.

[22:08 - 22:13] So it might be like, but we're staying once there.

[22:13 - 22:16] But we're staying when we get the projects that become work on.

[22:16 - 22:16] Okay.

[22:18 - 22:20] So until then, I think we'll just kind of hang tight.

[22:22 - 22:27] We'll try and get some documentation too for you just to sort of have like a reference point maybe.

[22:27 - 22:36] I think that you have a little document just kind of showing different post-assimation definitions and where they should be.

[22:36 - 22:37] Yeah, absolutely.

[22:38 - 22:38] Okay.

[22:39 - 22:39] I'll try.

[22:39 - 22:41] Yeah, I'll go ahead and do this for you for sure.

[22:41 - 22:41] Okay.

[22:42 - 22:43] Cool.

[22:43 - 22:44] Thanks for taking an improv to your call.

[22:45 - 22:46] No, thanks for the call.

[22:47 - 22:47] Okay.

[22:47 - 22:48] Enjoy the rest of your day.

[22:48 - 22:49] You too.

[22:49 - 22:50] See ya.

[23:00 - 23:00] Okay.

[23:00 - 23:01] Okay.

[23:01 - 23:01] Okay.

[23:01 - 23:01]

[23:01 - 23:03] I'm not so happy.

[23:04 - 23:04] I'm not happy.

[23:06 - 23:07] I'm not happy today.

[23:07 - 23:08] It's just a bit too late.