Tokyo Workshop on Genomic Medi...eutics, and Health 20240412-01

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**SUMMARY KEYWORDS**

data, analysis, participant, results, sit, integrated, university, researchers, people, japanese, case, asked, important, decided, examinations, center, services, hospital, set, future

00:01

As we discussed yesterday, genomic data enables causal which is going to lead to the station of pathogenesis and that we automatically drops. So it is expected that collaboration among, among by biobanks Loudwire. It just does led by Western countries with a pastor promote a combined services. And next one application of human genome data research is polygenic risk score. However, it is known that the accuracy of the same PRs varies depending on the human population to assess the feasibility of demanding DrSc society, it is necessary to evaluate its predictive accuracy in that part of society and examine the evidence and find them. It is important to note that, not all biobanks provides the same data. In each biobank researchers perform unique measurements and the related analysis, causal inference and accuracy measurement so PRs can only be used in that cohort. So, by understanding how each cohort is unique, we will be able to gain insights into the future direction of research and the path to social and today we also have the opportunity to hear from two researchers researchers

01:48

who have liberalized these resources to make significant oils, significant studies in Utica, we talk how the extensive biological measurements which I think are kind of digitalization human status may provide you insights into human biology and possibility. And shohet on the other hand, make use so existing data set but newly developed a model by which to which can add values to the foundation, causal inferences of their work expensive device now, how are we going to set up operation and sharing of knowledge on diseases? And as we embark on today's journey, let's keep in mind that potential science to transport healthcare and the group improve lives with us embrace the spirit of collaboration and openness that is essential for the progress about many of you might have been aware of the openness of the UK biobank that we discussed yesterday. And I believe he was quite shocking when we first learned about it. Then I asked Rory Why don't you get by with this open? And his answer was simple. It's a win win situation for everyone. Then he explains that it's open because it benefits the by the researchers and everyone involved. I hope that this will also be you will further expand the into a future where data from bio banks around the world is integrated and available for us. It goes without saying that this will be a win for researchers. But I also hope that the understanding spreads to get a window by box, the participants and the patients as well leading to a world where everyone it's really integrated. I wish you all a fruitful and inspiring day

04:10

let's start the session. Our first speaker is Professor masa Yamamoto, from Ohio University. He's the head of the Tokyo medical marijuana organization. And he has recently made two videos please take advantage of this honorable recently Thank you very much.

05:00

For the invitation from an organization in St. Joseph. My name is usually people call me mercy

05:18

mercy and I've been working on the open medical care as he is a

05:34

reference in Arizona, in Arizona in the area of Costa Rica, we are interested in diversity is the process

05:48

so decided to create a new construction called diversity and

05:59

we are thinking

06:02

the monster device medicine the people who suffer from prostate cancer

06:08

and other than the result that personalized medicine is

06:15

the most advanced medicine so we decided to work on this and we're working is

06:23

we deployed

06:26

the Pennsy center as much as possible. And then the business as a business and as the data and information and this includes the cohort study using the General

06:52

General cohort and

06:53

also the intelligence

06:55

is necessary for

06:57

the commodities that have been picked up vary between genetics and

07:05

so we started this study, study certain type

07:09

of copper one way is a community based which is our the internal people in the Senate. And the second one is the grandson three generation code.

07:23

This code will first

07:25

read through to deployment and then to accountability 2000.

07:33

Baby work on

07:37

the summertime

07:39

it's a queen's so that have sold

07:44

over and

07:48

as a result exactly Japanese partners focus

07:56

so we expect with a lot of new friends, but it never so taken and the behind so we can finish the 1007

08:21

Community Support Center. It is literally support center this is us. So we did a quick assessment people didn't do better on the MRI. So we put a Community Support Center is the breakfast now. These people really

08:55

trust the

08:58

center and the normal people and the diversity investment and continue that same information FISMA won't be expensive. And the

09:12

physicals and welcome examinations are the central solutions in it was important for us. So every five years Oh yes. And sitting

09:33

and this is our weaknesses.

09:37

Remember cyber freeze

09:40

could be the home the concept clearly.

09:48

Hello today learn costly six years we did

09:53

the wrong thing because so

10:04

so part six is the

10:09

third element.

10:19

The end of this year more than 6070 70,000 more this sit down and this secondary measure is important.

10:39

So login

10:41

for these variables in this case and the demographic resolution as we have been working on the last two centers.

10:52

We have been set up by the mother and the father and the son is important. So in Cooper, especially population cohort study is the hence intersect the Center for the

11:15

from the beginning of

11:16

our research, we decided to return our biochemical physiological examination results to the participant. So within

11:29

sometimes passing

11:32

other than movies, the

11:35

Avengers score so we

11:38

also sit down to the other

11:43

axis this paper they started in this exam set. So the basic idea is emergency notification of these various examinations

11:58

especially the unknown

12:01

comes to this. Our basically

12:02

is designed to be

12:07

equally MRI MRI.

12:15

So, the data in

12:20

is also concerned that was not

12:26

as you may know, another entirely because

12:30

this is a more than 100 areas of history how but unfortunately it's

12:44

so within this sector the

12:59

nation this is not easy. We've been contacting various office and asking. So, this is invaluable the future cycle.

13:18

Now as we said it will be

13:25

integrated integrated with the suddenly

13:31

these things problem

13:38

so, the virus

13:40

is a virus on a larger scale in house and they consist of parasitism and data in general.

13:52

They can be added

13:56

so, there will be people that that live a sin

14:03

so our failure to convey this final

14:18

one he didn't say

14:21

that don't place the orders, etc.

14:28

But we decided to embark on this video results. So then it's also mentioned

14:43

that this is important because the landscape analysis will give us a new

14:49

high quality and this high quality quality and also the libraries saved

15:03

by this person. So

15:06

share them

15:12

so you know we have a problem.

15:20

Extensive Medical Center

15:24

and visa

15:26

database for the database for both sides

15:36

this is very important. So data sharing also sounds

15:46

so needy.

15:51

So the important issue is can we share because

15:59

we've got the download. So we've decided to

16:08

so most of you download that data scientist,

16:15

the SQL server so

16:23

we asked for the scientists to make the remote access site.

16:30

So the

16:32

remote access and the central area scientists. So more locations with museums the city of

17:01

Topeka as you saw this is

17:05

important. This module we're gonna store sacred and

17:14

quite recently

17:18

maybe because this so, we decided to perform the self modifying

17:30

step for this particular personal PC so still there are some really nice so there's some proof and data available. As a question of quality, extend extensive and one of them is done.

18:06

So resources started speeding by this class on

18:13

more than 5000.

18:17

So, this is also something and also the genomic DNA methods

18:38

then the second what is Zemo is so funny is buttons for these various including quotes and our students. This site is like that the visa center operation

19:06

so, basically

19:09

it's a

19:20

for news so when we started startling analysis, when you say decided that we're going to work on the

19:33

fourth and sixth

19:36

grade recycled content as you can see it's so easy to slowly see

19:49

one in a day

19:54

so anyway

19:57

so the 1000

20:00

and this was anyway, then gradually

20:09

increase the number. Also the machine is getting better and better. So let's see here with the famous that poll was 76,000 sequences. And this year

20:25

we'll finish 100,000.

20:28

So that's smaller than

20:31

the this is historical content analysis overlap. So because as you see the political minimum for the SE the so seamless and

20:53

focus gentleman

20:58

from country to country.

21:00

So this

21:05

is so using the 69,000 calls and Satanists

21:10

we excluded the

21:16

54,000 calls and what is is a collection of the costume and the frequency or the settling of the message that this one is the collection. So you can take notice

21:42

one of the hobbies in that way to

21:45

speed up appointment sickness is from the hotel and the second service is hospitals are so they find the pharmaceutical companies and also recovering funds and this funding was

22:09

not was

22:13

easy. The UK Biobank

22:17

data come from the

22:21

UK for all of us who simply prefer

22:27

to do this country's

22:29

history within the kingdom. So

22:38

we're gonna sit there so you didn't notice. But the up button

22:45

was for men.

22:46

The source code importance of the analysis are

22:55

up by

22:58

either 102 150,000 We're hoping to finish coming soon. Singapore

23:15

in South Africa

23:22

for all of us, peoples in the territory to Evers report.

23:39

Quarterly Satan's analysis of prospective studies has

23:42

been one figured out.

23:45

This is important, of course, very important sequence of what is important so this is also important

23:59

because

24:01

despite seeing the second one is pretty close to constipation, so the disease patient application really needs the general population for the general population. The causes for mutation are the other one is gravity.

24:28

So the more than

24:35

that someone was asked about this. What is the difference on the receiving end of this review

24:48

all the

24:51

experience that we've missed one draft.

24:56

This wasn't what

24:59

we use it for business is passing suitability is not

25:05

so low is on and so forth. And this

25:12

means that maybe there's

25:14

similar concepts the same type of nonsense you

25:29

should have for each segment

25:34

this is important. So identifying the segment

25:39

is important for me.

25:47

So I'm thinking know what to do with chemicals. Like

25:52

we have the 177 limitation. So the challenge was told me to come back around

26:04

we're working on various things for the person or one of the person and I think explain for you this evening. So this

26:17

is the general participant in building services. And all the tools you so you've done a regenerative a

26:30

lot of others and

26:32

this is an important time. So you felt

26:40

to the participant, someone has established a tendency

26:47

research project

26:49

for the customers and the project is nationwide. And in that there is a big data set

27:05

from abortions within

27:13

the university. So, we evicted hospital

27:22

soon as we finish up this thing so we scaled up

27:29

and proceeded to

27:37

the reserves this

27:43

week on

27:49

this recording

27:51

certainly highly associated with us

28:00

expected other participants

28:03

the equipment so that hopefully will be sufficient the publication. So the

28:16

information in the literature is not good enough. So we really need to work on this especially mentioned

28:27

so so so this is a really exciting

28:49

and in your

28:54

life to look into

29:00

now, so one of the probably

29:05

is integrated crossing here are

29:21

the

29:23

best in the world.

29:28

And this

29:30

shouldn't be continuously updated. Because so maybe

29:44

because I've already discussed that we also need a difference a gender difference job seekers and the International request don't sit as a as an exam.

29:58

So we do need ACLs people sequence we made the Japanese

30:08

German digital. This was made by using the tool for

30:15

the real estate as propagate this short video we did make this anonymous

30:32

and so we take it to the present.

30:42

So by using this

30:55

software

30:58

you can see the work

31:04

and the

31:07

normally the sequence structure so it's a great structure and one

31:20

sub samples by number four and we need to be testing the difference before this special

31:39

piece of DNA at the border focus away decided

31:44

that he was sending several samples were more than that.

31:53

This case, we reverse the T cells

32:00

and one example in this case, this is a mobile so they're not a mobile phone there is a seven myths one for father to protect

32:25

souls

32:34

some of you may not be the rocket scientist to be one or the other building scientists are moving

32:47

in concert in this region, which is important for gamma chain expression and a high level of

32:57

the reading process. This patient is face to face. So this is an important

33:16

step

33:18

because this was so sinking back this tendency not only dealing with suicide with public health colleagues working we're still working.

33:43

So we know within society, personalized prevention, early diagnosis

33:51

really only the genetic use and welcome

33:57

This is Ben.

34:03

So let me summarize. We have suddenly spoken medical interlocutor here as percentage

34:10

of the total good here because it really opens up type of mystery is generated by the collecting determine

34:26

and the continuing through the work of the data, this tendency system and

34:38

so we're almost 200 people there's obviously people work in

34:48

this area sold

34:56

Thank you very much

35:03

maybe you need to see that here.

35:12

Any questions?

35:21

Thank you. Presentation already mentioned that combining Biomedicine is very important for researchers responsible for the patients. So I'm wondering how this specific combine. Thank you

35:48

Okay, so thank you very much. Combining information from the notes is very important. Also the end quid pro quo. This is a really important thing with

36:07

systems at least system

36:10

services and the local disk drives and getting the data from the workers is very difficult at some are here. And also this is a VPN and we have a system. So just like Amazon we have this

36:36

in this case and people can come and see what we

36:45

were putting so people

36:49

survey analysis

36:55

taking your questions towards them, and also of the

37:05

the server using the special IP six. So it's your question

37:15

not excited because here we still have the same chord and the same by applying my thinking. How can we connect different levels let's say let's say

37:30

that's a fairly difficult task. Because as the channel says the deputy February

37:38

has a history. So it's not the

37:45

one no one was these

37:53

14 Japanese making consortium

38:02

and

38:04

sharing the information and threatened me the site and this

38:14

lesson, but it's still only 14 So we need to expand this what you see

38:26

so I'm thinking about in my opinion, if possible to have how to do that. connecting different bio banks in Japan and also connected by banks in Japan with worldwide just specific difficulty in Japan to be honest, there is a US privacy protection law in Japan that's quite strict. And then in that, in this case, there's one simple maybe solution just maybe you know, you are doing the AI research there is a method called federated learning. That is to do to construct a model we need access to the individual data of course, but it is difficult because each hospital has the mandate. does it integrate itself then the federated learning means the running go to the hospital then come back to the center go to another hospital learns up to that model and so on. So in this in this way, we do not violate the law, but we can integrate data stored at each hospital. And then new approach might be the federated semantic analysis. So go to the local bank and do the Association analysis and then get the identified associated association or something like that somewhere and then go do that by the identified digit then come back to that sit down so so then this is a de identified data not restricted by the privacy protection law. We can also make this this product out of Japan. So this is one solution. The other is we need to change our law

40:26

representing the Japanese Medical Society to make a proposal to the government. So he's the best person

40:42

for a very nice presentation on the return of results, I thought that was very interesting as well. I was wondering and important because I was wondering whether it mentioned that there's consent of course. But yeah, when people is that something that's optional, can can can they change their mind or whether or not they want to

41:07

get the results? Exactly. It's this is very important. So

41:12

when we started it was the spring of the 20 something in the university. As to the the

41:26

approval for university, the approval of the voters to hire first people on University says letters to return the Trinity conservative

41:48

University in this dangerous situation so I was in the key thing that said that this is a future security medicine, we need to implement this genetic risk analysis more than medicine so finally I got the approval. So from the beginning

42:24

in approximately the general analysis of the significance

42:34

then if we're going to say the sum of the message

42:39

or the message from us, will be sufficient. I have some secret.

42:46

So 22

42:50

So we usually in time the examination examinations.

42:57

So I just want to tell you some of the work that you have to do

43:10

the people who want to know

43:15

goal was the 60% 60% almost off the table

43:24

but apparently it is 2%

43:36

such a way that to satisfy some of the molecules continuously coming to

43:45

us this is the structure of our future.

43:54

Sorry, I asked squeezing one more quick question. So this follow up question. Very nice. So how do you communicate the results to the participants? For example, you said you have a hazard risk at point nine. So there's no explanation. Right? Explainable AI is one of the active research area in the AI community. So do you provide some explanation like you have seen a b and c has no case and therefore, you have this risk of

44:31

Thank you. We quite honestly, quite honestly disclose the type of mutation to the parties and a possible solution for them. So we are collaborating with the Tokyo University. So after informing the tentative plan to have to come to our university has to do the initial screen for the premature constant or then the every year the new party is implemented, like literally, so knowing the genetic risk, but still, they can live under normal. So the shortest answer is almost to the list and was also the the penetration rate and everything. For the Japanese, the penetration rate is not so solid, because not enough critical topics. So

45:50

I've been thinking we need to extend this type of study. nationwide.

46:02

Results from zoom