

文字记录：悉尼大学 2025年11月14日

会议主题：悉尼大学

上传时间：11月14号（周五） 13:38（GMT+08）

智能纪要：[悉尼大学 2025年11月14日](#)

说话人 1 00:00:01

But I thought we could have quick meeting ourselves and.

说话人 2 00:00:05

Okay, okay, okay, that's fine.

说话人 1 00:00:37

So for the project in January, oh, February, depending on when it is. Easiest views. I imagine something to do with machine learning where you basically you want to have a, so you have the in the lab downstairs, you help me have the conclusion, you know, right. And basically we, have you seen a quantum circuit before?

说话人 2 00:01:21

Learn a lot.

说话人 1 00:01:22

You said, you said like you said, you did a bit of kiss.

说话人 2 00:01:25

Good. Yeah, I have learn the quantum information and yeah, this book. Okay. Yeah, but this.

说话人 1 00:01:35

Hi zachang.

说话人 2 00:01:36

Like be state, could be the state. And yeah, yeah.

说话人 1 00:01:45

The if we have a keyword may write it like that. For example, well, like, well, usually it's zero maybe. And have you seen a content circuit where you like you have a cubed and then have you seen this stuff before?

说话人 2 00:02:08

Okay. Okay. Okay.

说话人 1 00:02:12

So when we tell a computer to do a rotation, we have to, you know, send a signal to the computer and say to a resolution. So 300 and set a Facebook computer and we say yes, binary.

说话人 2 00:03:02

Use Bannery.

说话人 1 00:03:03

But yeah, yeah, yeah. Because she's wondering if we say, we just say like, oh, maybe I just call it control in our class, college seller can help computer and we say duplicate here to get here. So the classical, the control computer is saying to the quantum computer, it's about the running out of that. There's 100 computer and says, Jesus. Okay. So what my what I wanna, my proposal is you said that you're familiar with some of the content stuff that would pay. Does that be right?

说话人 2 00:04:02

I make a research plan.

说话人 1 00:04:04

So, yeah. Okay. So.

说话人 2 00:04:06

Under the help of AI.

说话人 1 00:04:09

Yeah, yeah, yeah, of course. Yeah, they did a research plan.

说话人 2 00:04:12

Yeah, I learn a lot about Quantum Control Lab. Yeah, but I, yeah, but maybe I can describe it.

说话人 1 00:04:20

Yeah, you know, that's okay. Yeah, so it's okay for. So here instead, QC applies control theory and machine learning to tune up quantum systems. That's what we kind, that's the kind of project I wanna do. So when we wanna create, so I mean.

说话人 1 00:05:06

So in our work, one of the things we want the content computer to do is create new states. So for example, we want to do all these different types of gates so that we can then make a quantum state that familiar. That's about, yeah, yeah. Okay. So. So for example, if I wanna turn this into, oh, if I'm gonna turn a zero state into a one state, do you know what you have to do?

说话人 2 00:05:51

I learn a lot about is to use the, I can describe it precise because the is the academic word, English word. Okay, so I don't know it, but I know your you're doing. How to describe it because I ask your some paper to ChatGPT. And it told me what you do. And what need to get. So I learn a lot, but maybe I can describe it.

说话人 1 00:06:44

Okay. Okay. But yeah, so like I just said, just very basically, this is all very complicated. Like all the that work is kind of is like complex category. But I was saying that like in a content computer, one thing that you can do is change states. Do you like, have you heard of states before? Like in a quantum computer usually have you have two certain but in like just like a passport computer, this is so the depends a bad let me get I'll get one. I'll get one from inside. I'll leave that in a second.

说话人 1 00:07:48

Okay, so in a column here, we have just like in the passport community have a zero state kind of wants it. And Dave, you can, when I. Have my carrot, have you seen that you can be so my cubit stay is mathematically written like this and I can ride my keyword state can be equal to 0,4, you can be equal to 1. And so far, same as a classical computer, you can have a zero, you can have a bit as 0 or 1, right? But in a quantum compute, you can also have this.

说话人 2 00:08:49

So many bit work together within the same.

说话人 1 00:08:55

Time. At the same time. Yeah, I know that. Yes, yes, yes, yeah. And in a constant computing, you can have, yes, have you seen that before? So superposition maybe.

说话人 2 00:09:09

Yeah, but maybe I forget it.

说话人 1 00:09:11

Okay. Yeah, so this is called superposition. And what does this mean, right? Okay, so what it means is that one night, the Cuba, right, is 50% in zero and 50% in one. So whenever I measure, whenever I ask the content computer, what is this cubit stay in, if I measure it, half the time I'll measure. So if I say, let's say, measure this, then 50% of the time I'll get. Zero and then 50% of time everyone.

说话人 1 00:10:07

Are you you are you familiar with this server? Okay. So the problem these states, these kind of, this is one state of a quantum computer that people want to try to create, sorry, to have like a superposition of two things. And the problem is, how do you make that?

说话人 2 00:10:35

Oh, so it's a brand new cubic state.

说话人 1 00:10:39

No, this is just an example of it, of a cubic state. The problem is like we want to be able to create, keep it states. So we wanna be able to create this kind of safe, we want to be able to create. So that's one example of a key will say I can also write, so say like another one where I say it's I would say like I can might wanna create that. And if I measure this one, do you know what the percentage chance I get zeros?

说话人 2 00:11:46

It's like maybe 30.

说话人 1 00:11:49

Yeah, 30. So 30%, 33% I'll get zero and then 66%. So exactly. That's really good. So we and a constant computer we want to, we wanna make, we want to make our qubit look like this. Sometimes we want to make our qubit look like this. Sometimes we want to make our qubit look like any superposition, any, like, you know, complex numbers. Yeah, yeah, any complex number here. So in general, where all we all that we want is that $a^2 + b^2 = 1$. So there's any few that can be written like this. As long as these two numbers, which are in general complex ego Sancho. So.

说话人 2 00:12:47

Yes. So until now there are not so many. Could be the state.

说话人 1 00:12:54

No, that's very easy. It's already solved. This problem is already solved. So some people, so in normal machines, in my quantum machines, we'll have, we'll start, so we start in the zero state because we know that's easy to make. Just prepare my qubit in one state, in sorry, one level zero. So which is one of the two. And then what happens is that we have these content gates, right? And they, when the content is, this is called the content a , right? And when you apply that to here, they're saying why and I'm pleasure to hear, then the outcome is 0^+ .

说话人 1 00:14:02

And what the have you have you done, you've done matrix multiplication before. So the you can think of this. So I would say that I have a , like if I have my zero state, this is like saying one zero and my one state is like saying $0, 1$. And if I have a gate like ROI 0 is like saying we have to write this as a matrix now. So ROI Panel 2 is like something like think it's like a .

说话人 1 00:15:10

Like this and the 0 just becomes like this. And so if I solve this, what do we get? Yeah, so people to content gates are like matrices and states are like factors. And in the content computer, basically the content computer is doing is it starts at the vector and then hits it with a matrix. And then the result of that calculation is what it outputs. Make sense? Okay, cool. So that's what we do pretty much all day. Okay, second lab. So we, we just we get the con retailer computer, what gates to use. And then we have this, we start with the state and we produce something at the end.

说话人 2 00:16:05

To produce some new state. To produce.

说话人 1 00:16:07

A new state.

说话人 2 00:16:10

And.

说话人 1 00:16:11

Cubits are easy. Just cuz cubits are just two levels, right? Yeah, every people can make now in downstairs in the lab, we can make keybits in any state we want. So we can, we have all of these different types of gates and that's easy. Okay. But in as like when we're doing research, we are looking at using content systems with more than just two of us, thanks to this. So this work here, we're looking at making states that aren't just cubits, so not just two levels, but like infinite levels. So it's kind of crazy. Oh yeah, but let's look at one example. So 1 state that you can make. So now we're not looking at cubits anymore. We're looking at something called a boson. Now a boson is.

说话人 2 00:17:22

Proposal. Yeah, how to spell.

说话人 1 00:17:24

It? I, d, o, s o n. So a boson is a, you can basically think of it as like some large number hundred pick up. So this vector can be really well, depending on how many levels you consider. And what we try to do downstairs is say, well, some of these states made up, made like some of these bosonic states, like states that come from a boson are really useful for a lot of things. So it turns out that you can actually make better cubits if you use more levels. So these, these, this type of keyword just has two letters. If there's any mistake.

说话人 2 00:18:42

Anything higher level, more level.

说话人 1 00:18:45

So this one's bad because any mistake and it let's say that like in my content computer, I'm in this state and I have some mistake where it sends everything in 1 to 0. So there's a thing in the, there's a like, and our quantum computers are made out of atoms, right?

说话人 1 00:19:09

Sometimes. And Adams have, they can either be excited or they can be relaxed. So if they're relaxed, they're not, they're just like still listening still. If they're excited, they're like kind of shaking, right? Sometimes you can have in like in the real kind of computer sometimes cuz we use trap ions for as on cubits sometimes you can have the excited state just randomly lose. It's.

说话人 2 00:19:52

Like just cool down, right? Yeah, it's.

说话人 1 00:19:55

Not stable. So that means that if that happens and I'm in. As a position of relaxed and excited. If I have an error like this just comes your lives, then I'm in here, right? Because all of this, I mean, well, let's just say I have an error and I'm like this because anything that was excited has now lost its excitation. It's gone down. Yeah, become serious now back to it is not useful anymore. It turns out if we use more levels, then there's some Protection from this happening. So I won't go into why because it's too much. Yeah, for this some, the some Protection you have if you have like more levels. So what we what we so it's still a cupid. We're still trying to make cubits, but we're not, we don't want to make cubits out of just two. We want to make cubits that have some more complicated, a complicated structure that makes them more protected. Okay, for some examples, if we use $0+4$, this is more protected than $0,1$. Yeah, I want to tell you why. I'm just have you just have to agree with me. Okay. If we use $0+6$, it's also that's more protected than $0+1$. Yeah, and they also, when you have, they also have these like mathematical representations. This is so that these pictures here are like some mathematical representation of what a cubit kind of looks like, a more complicated cubit kind of looks like. I, you don't have, I don't have to, you don't have to know why it's just it's just pretty, it's just like pretty fictions. Yes. And so what we wanna do basically is like figure out ways to create these things.

说话人 1 00:22:06

Okay. And what we did, it's a great. So we actually this is like this figure here is our, I'll result in the lab. So here's the lab result and here's what we try to make.

说话人 2 00:22:27

Try to make, yeah.

说话人 1 00:22:29

So we try to make a cubic, which is basically $0+4$ kind of a superposition to make sure it's very useful. And we do pretty well. Like they look the same, right? So, but the way that we did that was

we used machine learning to create a some a set of gates to prepare to create this state. So what we did is maybe I'll show you.

说话人 1 00:23:18

So we did something like this where we have they always quantum gates. So one to like set many quantum gates in order to create our state that we want. So what we had basically was we started there and then we had all these sequence. Okay, I'll just call them you one, YouTube 2,3. And at the end, I got this.

说话人 1 00:24:12

But this is actually a hard problem to solve because U_1, U_2, U_3 , right? Like it here, because you're looking at something like this. This is actually equal to a very big vector. And these are now very big matrices, right? Cuz before we were looking at cubits small, easy to solve. Yeah, for now we're looking at bosons. This, the vector is sometimes. Hundred hundred long. And the matrix. The matrices 100×100 .

说话人 2 00:25:07

Right. So huge.

说话人 1 00:25:08

The huge, right. So the, the, when you wanna create some sort of optimize on machine learning or like optimization routine to choose what kind of matrices to use. It becomes a very big problem, like very expensive problem to solve, which we were able to do, but it's kind of like it was really slow and we wanna find better ways of doing it.

说话人 2 00:25:37

Okay, so we need to use computer to simulation. Yeah, exactly. To optimize the metrics.

说话人 1 00:25:44

Yes, yes, you have to use a classical computer to simulate the quantum computer to tell the quantity what to do. And that is slow because quantum, the rate, the whole reason why we use quantum computers is cuz they're better than class. They're better at classical computers when they simulate content, things like that. Like a contributor just instantly produces the result. Like, yeah, so exactly you're right. So you use classical computer to simulate it, but that simulation is so expensive. Yeah, slow. That doesn't like there's a problem here. Oh, the idea for this project is to instead use a quantum computer to do the optimization. So.

说话人 2 00:26:32

To use quantum computer to simulation.

说话人 1 00:26:35

To do simulation.

说话人 2 00:26:38

Use machine learning.

说话人 1 00:26:40

So yeah, so what, so yeah, it's kind of complicated, but here is this paper. So what they do is they have a reinforcement. Many agents create a sequence of gates and the cost function, like if, if you if when I did this, the cross function was calculated by a classical computer, which means that you need to simulate the system classically, which is hard. Here they say, well, you can get a reinforcement learning agent to create the gates, but then the cost function under award is created by the content computer.

说话人 2 00:27:41

So yeah, so it's a chief.

说话人 1 00:27:45

Yeah, I think this is a theory page.

说话人 2 00:27:48

It's just a image.

说话人 1 00:27:51

It's just manager. Okay. So they haven't actually done it. They have, they have all these.

说话人 1 00:28:01

They don't actually do it on an experiment, which is what I wanna try and.

说话人 2 00:28:05

Try to do in age driven.

说话人 1 00:28:08

That we can.They've kind of simulated it, how good it is.And they're just, yes, or these are all theoretical theory results, but they just show that like, you can.

说话人 2 00:28:29

Yeah, we can, you can do this.Oh, I just, oh, I get it.Okay.Okay.

说话人 1 00:28:35

Good.I'm happy.I'm happy.Yeah, I was worried that this is like relevant.

说话人 2 00:28:40

So I also need to do some experiment in.

说话人 1 00:28:44

Experiment.

说话人 2 00:28:45

Just to simulate in computer.Okay.Yeah, but I, so I use classical computer to simulate quantum computer.

说话人 1 00:28:57

And then when we show that it works.

说话人 2 00:28:59

Yeah, but I remember you just say, yeah, use classical computer to simulate quantum computer is slow.So.

说话人 1 00:29:08

We can do it.We can still do it.So this work is all instead using a custom computer to simulate quantum computer.And what I want to show is that the quantum computer can do just as well as the customer.Because there's some issues with the quantum computer.It's not as clean as a classical.It's more powerful, business clean.And so if we can show that we can replicate this with

a quantum computer and that's good, then we can go to bigger problem. Because like for right now, the classical computer only works for maybe 50 levels or maybe 50 or hundred levels. Anything more than 100 levels, the classical computer doesn't start to not be as fast. Yeah. So then if we can show that the quantum computer is just as good at 50 levels, then we can, then we know that the quantum computer scales well as you bring it to more and more levels. The best show that it works. A small example and then you can bring it and then you can.

说话人 2 00:30:23

So we need to prove that quantum computer can do so many level than classic computer. Get it.

说话人 1 00:30:38

So that's a project. It's not. It's, yes, it's a lot of work. Yeah, not understanding, but I think you're very like motivated. So yeah, yeah. So I thought it was a good project cuz I think you'll learn a lot as well.

说话人 2 00:30:59

Yeah, right.

说话人 1 00:31:00

Yeah, right. And yeah, there's no pressure. It's just, you know, this is about learning. So it's like whatever.

说话人 2 00:31:08

Just to learn.

说话人 1 00:31:09

More. Exactly. Yeah, let's to practice. Yeah, to learn more. And then hopefully if we, if everything goes well, then we can implement it and okay, I get some nice results.

说话人 2 00:31:20

Okay.

说话人 1 00:31:24

Okay. So again, you're very busy with exams, so I don't wanna give you like too much, but I'll send you, I want to send you the papers. Okay. And I think like it's a lot to understand. It's, I

unders it's a lot to understand.Yeah, but I think ChatGPT is good.Feel like mine for trying to like break down the complex.Yes.

说话人 2 00:31:55

It will teach me.

说话人 1 00:31:56

Yeah, exactly.So my hope is to, yeah, so send you these pages.Obviously, your exams come first.Yes, that's the number one priority.But then after, during the holidays, if you just wanna do some like.

说话人 2 00:32:14

To learn a lot.

说话人 1 00:32:14

To learn, yeah, to learn more about that.Okay.

说话人 2 00:32:19

Okay.So my exam is from 18th to 29 trainer today.Yeah, to the last date.To last date.And then I will look for a new apartment and move into the new apartment.So it will cost me a lot of time.Yes.After I doing that, I will, yeah, I will try to learn more, yeah, basic knowledge and to do the real project in on January.

说话人 1 00:32:50

Okay.Yeah, I think we're.

说话人 2 00:32:52

Back because the rule, the rule is shows I need to start from January or February.January, February.But in fact, I can start at every time, anytime.Okay.

说话人 1 00:33:06

Cool.Yeah, I mean, whenever you want, whenever you wanna start found by me, I'm easy.Don't.Yeah, yeah, no pressure.That's whenever works for you.Whenever is easiest for you is easy is easiest for me.So, okay.

说话人 2 00:33:21

Yeah, so the date is not, yeah, it is.

说话人 1 00:33:28

Not decided yet. You can just go out like we'll be in touch on email and I'll, yeah, you can send me a message or I'll send you a message when January comes.

说话人 2 00:33:42

Okay, so yeah, so the project is your primary project.

说话人 1 00:33:49

I don't have it like, yeah, like asking, like, I'm you asking me if I'm working on this. Yeah, I'm working on it. Not all my time. Most of my time is spent downstairs, like actually running it, running the computer, but then a little bit of my time, essentially this. So it's not like, yeah, so this is mostly your.

说话人 2 00:34:19

Work now. Okay. Okay. Because if you have the other project, so maybe you have different schedule. Because my time is so free. So, okay. Okay. So it depends on your schedule value. Yeah, I see. Yeah, when do you need me? I come here. Yeah, because my time is so free.

说话人 1 00:34:42

Okay, we can start in January if you want.

说话人 2 00:34:45

1st.

说话人 1 00:34:45

January. January, I think we get back on.

说话人 2 00:34:53

6,6, January 6.

说话人 1 00:34:56

I think for me. Okay.

说话人 1 00:35:10

Number.

说话人 1 00:37:25

Okay, I think it's 7th of January. 7 to January is one the campus opens, like the unit opens again.

说话人 2 00:37:38

Oh, so.

说话人 1 00:37:39

It's close in the Christmas break. Oh, so we can just, let's do the week after. So let's do, let's say the twelfth of January. Twelfth. Okay. Rather than.

说话人 2 00:38:27

So if we don't change the date in the future, so the date is decided 12. Yes. Okay. Yeah, because maybe, yeah, yeah.

说话人 1 00:39:05

Are you going away at all? Are you gonna stay in Australia.

说话人 2 00:39:11

In notice side?

说话人 1 00:39:13

Yeah, like you drain like in a drink that break for like after exams finished. Are you staying in Australia?

说话人 2 00:39:23

Oh, do you mean the last break?

说话人 1 00:39:26

I know this kind of future, this fee, this coming break.

说话人 2 00:39:29

Oh, yeah, maybe I back home. Okay. Yeah, be before this project, maybe. Okay. Yeah, but if the time is so short, I will not back home. So it will decide the start date.

说话人 1 00:39:43

No, we should defect. You should be able to get back on.

说话人 2 00:39:47

It's not necessary.

说话人 1 00:39:50

Even if you want to, you should. No, it's not up to me. It's really not to me. It's really up to you. When is the most convenient time.

说话人 2 00:39:55

Yeah, I know that. Okay.

说话人 1 00:39:57

Rachel.

说话人 2 00:39:59

Yeah, because if the, because I need to move into new apartment. So if the start date, oh, it's late. So maybe I will back home. If the start date is earlier, I will not back home.

说话人 1 00:40:14

Okay, that's we should do.

说话人 2 00:40:17

Okay. Yeah, but the back home is not necessary for.

说话人 1 00:40:20

Me. What is easiest view?

说话人 2 00:40:23

I want to start earlier.Okay.Yeah, Mike.

说话人 1 00:40:28

Okay.So trust is a is good thing.

说话人 2 00:40:29

Yeah, it's so good.Okay.Okay, good.It's perfect.Okay.

说话人 1 00:40:32

Okay.So, okay, if it's not, then just tell me if you wanna, like, if you change your mind.I'm very flexible.So.

说话人 2 00:40:39

Yeah, I know that.Okay.

说话人 1 00:40:51

Correct.Okay, right.I'll email you.

说话人 2 00:41:00

This paper.And I will learn some knowledge by the help of chat GFT.Yes, yes, yeah.Okay.And I will start it in January.Yes.

说话人 1 00:41:15

If you, yeah, whenever you wanna start, you can start reading earlier or on January up to you.Okay.So if you understand, like you can do the chat GBC stuff as soon as or like, or learn reading the paper, like as soon as your exams are finished or in January, it's up to you.

说话人 2 00:41:32

Just.Okay.Okay.Yeah, I think it's all flexible.It's.

说话人 1 00:41:36

Very flexible.

说话人 2 00:41:38

Okay. So it's a free, it's like a free research experience. Yes.

说话人 1 00:41:43

Okay. Okay. Get it. Yes. Yeah, I think that's, yeah, I think I'm happy with that. Are you getting any other questions or.

说话人 2 00:41:53

Anything? Do you have recommendation on the book? I should learn. What? Because I just learn the quantum information and quantum computation. Yes, just book is enough.

说话人 1 00:42:07

I think so. I actually.

说话人 2 00:42:10

Because to be honest, I don't know too much about machine learning in quantum.

说话人 1 00:42:16

It's like, I think it's mostly like machine learning.

说话人 2 00:42:20

It's similar to the other. Okay.

说话人 1 00:42:22

It's, it's not like a, it's not, cuz there's quantum machine learning, which is different to machine learning. And this is machine, this is just machine learning. It's not quantum machine learning. Okay. Okay. Cuz continuation learning is when you, yeah, it's, yeah, yeah, it's different. It's classical machine learning to. Okay, yeah, I don't want to do.

说话人 1 00:42:59

It doesn't books.

说话人 2 00:43:26

And I have one more question is that, yeah, will I get an email from school to inform me then the project? Well, I get, I because my, yeah, because my friend apply, yeah, vacation engineering research project. And I, and school will send a official email to them. Will I get? Yeah.

说话人 1 00:43:58

I don't know. So is this. Is this a s Q a.

说话人 2 00:44:02

City, Nana? No, I. It's the university. It's the singing of university. Okay. Just research.

说话人 2 00:44:29

Is this one?

说话人 1 00:44:31

I see. Okay, let me ask milestingray, okay, about this. Because, yeah, I don't, I know like part of the administration kind of thing. So yeah.

说话人 2 00:44:49

I know that. Okay. Yes.

说话人 1 00:44:57

Actually, I also wanted to add you to Slack. Do you know Slack? Oh, yeah, yeah, I know that. Come with that. Yeah, let's see if I can do it.

说话人 1 00:45:18

You add people.

说话人 1 00:45:57

Okay, sir, maybe I'll do this. Tefu University email.

说话人 2 00:46:08

Why it? Do you want to use Gmail or University? Maybe? Why? Liu Yu Liu 0,4,0,6,6. Yeah, sorry.

说话人 2 00:47:19

Okay, so you.

说话人 1 00:47:25

Slack.Yes, I guess.

说话人 2 00:47:28

How do you find it?

说话人 1 00:47:31

I think it once your email, yours.

说话人 2 00:48:06

Maybe I need to create a new account because last time I used Gmail.Okay.So you said me, I need to join, I need to join a workplace and then agree your invitation.So I think it need me to choose one group from this.I see.Yeah, and I can get your invitation.

说话人 1 00:49:38

Is there anything like QCL that's annoying?Okay, I'll try it again.

说话人 1 00:50:20

What was your email? Weekend.

说话人 2 00:50:22

Yle 0,4,0,6.

说话人 1 00:51:06

Yes.You know, you know, that's too much.

说话人 1 00:51:37

Do you have to log in to slack with your.

说话人 2 00:51:40

Yeah, I have joined the NASA Space f.If.

说话人 1 00:51:45

But if you sign out a Slack and then sign in with a new account, does that work?

说话人 2 00:51:54

I think it's Slack. I think it's sign. Okay.

说话人 1 00:52:12

Maybe I can add your Gina.

说话人 2 00:52:17

Instead. Maybe it's my problem. I think maybe I will try the last time if it's, I'm still working.

说话人 2 00:53:59

You still told me I need to join a workplace at first and then get your invitation. So maybe I can try to join this workplace. Anyone maybe drawing one?

说话人 1 00:54:17

If you can. Yeah, I'm not rocket. I'm not.

说话人 2 00:54:20

Sure about it.

说话人 1 00:54:23

Okay, specify. But if I invite you to the workspace instead, so I do the same thing. So I have to ask you for email, I guess. Okay.

说话人 1 00:54:45

Was that why I would roll the.

说话人 2 00:54:47

Numbers again? 0,6,0,4,0,6.

说话人 1 00:55:09

Okay, let's try it again. But now it's added as a member, problem member. Hopefully this works.

说话人 2 00:55:39

It seem like right. It's right. I think.

说话人 2 00:56:07

Maybe it's an impolite question. I know your, you are the bachelor student from university CNN and then study PhD directly. So do I think you have a high web?

说话人 1 00:56:23

Hi.

说话人 2 00:56:24

Webb. Yeah, hi web.

说话人 1 00:56:26

Oh, no, not really. I think like research and Wham, sometimes related, sometimes not. Oh, so sometimes you can be a good researcher and not be a good. I do not agree.

说话人 2 00:56:48

Oh, I get what you mean. Yeah, yeah, yeah, right.

说话人 1 00:56:52

Okay. That was great. Okay, I can see it. Hi.

说话人 1 00:57:54

Send message. Okay, great. So I can send you, okay, can send you stuff here, which is easier, I think. Yeah, you should easier, better than, you know. And then this is the book. Have you seen this book? It's, yeah. Okay. So this is good, especially the beginning pages. It gets too complicated again. But I think just understanding chapter 1 and not even like this stuff is not that important. I think it's like cool to, it's good to know.

说话人 2 00:58:42

Chapter 1 is enough.

说话人 1 00:58:43

Yeah, Chapter 1 is good. Okay. And also maybe Chapter 1, I'll write this down. So chapter 1 of consider content such section 1.1 to 1.3. And the stuff is also kind of important as well. So I'd say Chapter 2, do you want to do, and yes.

说话人 1 01:00:00

That is something.

说话人 1 01:00:13

This is, I was talking before about the gates. It's like the, a single cable case. And, you know, you can get, they can get really big. I was saying that like if you have gets it get higher and higher more states you can I get really large. Yeah, so I think, yeah, it's just mostly learning about that. So much reading. And then, yeah, I would also move forward about like how everything is a superposition of 0,1, like any complex number, I guess this is interesting if you wanna continue with quantum computing. So like learning about. Let's forgive it. Okay. And yeah, just I just read it. ChatGPT is a best friend. Yeah, yeah, exactly. And then I'll, and then I'll also send you the pay this okay, zone. Okay.