

NVIDIA's Jensen Huang on Building the Dynamo of the Intelligence Age

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Thank you so much, Jensen. So, uh we are in the middle of a massive AI revolution. Uh it is probably bigger and faster than even the industrial revolution and you have called out what's happening right now as the largest infrastructure buildout in human history. At the center of that buildout is the AI factory and the company enabling all of that is Nvidia. Can you tell us what is an AI factory and why is it the best investment for any enterprise in the next decade?

>> Okay, so um you could you could understand AI in a in a particular number of ways. the the way that you understand AI probably most is through a chatbot through a web browser. Uh you're interacting with it. You give it a prompt. It says something back to you. And and even those of you who have been using AI for some time uh you've seen in the last couple two three years a very significant evolution improvement in the capabilities of AI. Two years ago, you heard about chat GBPT. And ChatGpt basically is a computer software that understands the input you give it. It can perceive understand information and it can translate and generate the information into something else. Okay?

So, you can give it a prompting. You can say, "Here's this PDF I gave you. Um, I would like you now to summarize it. It went from text to text." You could also tell it, here's a PDF I gave you. Um, I would like you to now generate an image of that story. It go text to image. You could use go from image to text, meaning you could give it a picture and you can what's happening inside this picture. It goes text uh image to text. Does that make sense? Anything to anything else.

And AI in the last in two years time, two years ago was largely able to do this translation. We called it generation generative models. Okay, generative AI. But the the thing that is very big deal inside that word generative AI is in order to do something even more valuable than generation p understanding and generating is thinking. Well, you can't think if you don't generate words. And so the fir the foundation of generative AI gave us the ability to generate internal thoughts, thinking, reasoning, step-by-step reasoning, problem solving.

It also allowed us to do another thing that is now very important, which is generate intelligence to control something else to generate control to use a tool. Does it make sense to use a browser, use a spreadsheet, use Photoshop, use PowerPoint, use something, use AutoCAD, use another tool? Now that tool today is digital, but someday that tool will be mechanical. So if I generate a command to a mechanical system, that would be called robotics. If I generate commands for uh a machine with steering wheel, that would be called self-driving cars.

Does that make sense? Okay. And so two years ago, two years ago, in fact, you saw the foundations. We call it chat GBT. And everybody said, "Ah, you know, it's fun. It's it's silly or it produced a whole bunch of crazy hallucinated text." That's all true, but it was the foundational technology that led to all of this. Two years later, we now have agentic systems. Now, that's one view of AI. I just described the view which is what can AI do right and so now all of you realize you see it from chatg you see it from codeex you see it from cloud code you see you see that it's now able to not just understand but it's able to do work reason and do work now two years ago when AI was able to understand you and generate information that was interesting novel a little cute. Whenever you need a poem written, great way to do it, right? Who doesn't want to write a country song?

And so, so that was two years ago. But now, because it's able to do work, AI is valuable. Valuable meaning it can generate information. It can generate useful work, and it could be paid for it. Because we pay for we're we're interested in having friends that are smart. We love people who are know-it-alls, but we don't pay them for it. We pay for people who do work. Does that make sense? All right. Which is what happened in the last two years. AI went from having this capability to now agent went from not use not very valuable to now producing useful work. So much useful work that you and I are doing this every day. We're paying AI by the hour, right?

And so we might pay them \$30 an hour to do the work, \$20 an hour to do the work. We're basically paying AI a lot of money today. The fastest growing software business in the history of mankind because now it's doing useful work and we can pay them to do it. Now that's one view of AI which is what it can do. But one other view of AI that's really important to help reason through what Constantine is saying. So for example, the reason why some companies, some people are able to build great businesses and could maneuver themselves into the center of very large industries is because when they see this capability, this is very interesting. One interesting thought is if we're able to do this, what is the implication to this downstream industries? That's an interesting conversation we should have.

Okay. So now that AI can do this, what happens to all the industries like healthcare and financial services and life sciences, manufacturing, logistics, transportation, on and on and on, retail, advertising, future entertainment, the the list the list of the list of conversations you can have about now that AI can do this, what can it do as a result subsequently? That's an interesting conversation, but you should go upstream meaning industrially what does that mean? And so the first thing you realize is this. Go back to first principles.

I had told you just now that AI is software and it's being produced by a computer. Now what happened to the computer that is made it possible to do this? Well, the big idea is about if you think about the computer as we know it today really emerged about 64 years ago. IBM system 360 was the biggest announcement of computing and 64 years ago IBM was the most valuable company in the world. Okay. And they created the modern understanding of computers.

Everything that we can describe about computer was really described in 1964. For 60 for 40 years largely has remained the same. And what happened was what happened was that in that form of computing is called pre-recording. You write down your story. you save it to a file. You write a program by hand, you save it to a file. You uh take a picture, you save it to a file. You record music, you save it to a file. You make a video. Right

now, we're in streaming right now, but somebody's going to record it. You're going to save it to a file. And when you want to use it later, you retrieve it from the disc drive. Does that make sense? And the retrieval process is done intelligently.

So that's why everybody's retrieval of a news story is a little bit different. It's called a recommender system. But basically computers as we know it today is a retriever retrieval-based system which is the reason why these buildings are called data centers. They store data. Notice they don't call them computer centers because you're not doing much computing. They just store data that you retrieve based on what you touch on your phone. Well, what happened now? If you look at what I just described, in order for this AI to work as I described it, every time I say something to it, I have to give it new information, we call it context, I give it a new prompt that's called a query.

Between the context and the query, it will understand it first, reason about it, and it will produce an output based on that context in that query, based on the circumstance. Does that make sense so far? Okay, give me one nod. Okay. And so if that is the case, every time you use the AI, the content is produced originally every single time. Everything I'm saying to you right now is being produced in real time. And it's because my explanation is based on the fact that I realize all of you come from 60 different countries, 128 different families. You all have many different backgrounds. Some of you probably came from the computer industry. Most of you probably did not.

And so I'm explaining the information to you in a way that is sufficiently deep. But ultimately my goal is this. So that you know how to make your next investment. That's what I'm leading to. And so I'm going to give you enough sufficient information that you can reason about it for yourself so that when you see something in the next time you go, that's worth investing in. That's going to be a big industry. That's a hundred billion dollars right now and it looks really big, but that's nothing compared to how big it's going to be. I'm going to give you the intuition to solve that problem. Okay?

And so, so here we are went from a computer industry that was largely based on retrieval for 60 years and all of a sudden one day it's completely generated in real time. We call it intelligence. This this is what I'm doing right now for you. I'm demonstrating intelligence, contextual awareness. He gave me a prompt and here comes my answer. Does it make sense? >> Extreme intelligence. Extremely artificial intelligence. Okay. And so and so here I so here here what's going on now. I just gave you one word earlier. It's called generative AI. The the computer of today has been completely reinvented. It's now generative.

And every single toe, every single letter you see, every single word you see in your in the future, every video, every image, every ad, every TV commercial, every single time you read a story, >> a news story, every one of them will be different. What Constantine sees, what I see, what you see will be completely different because it'll be generated for you. because your your interest, your context, who you are, for what reason you asked, how you asked is completely different. Does it make sense? And so therefore therefore every single pixel that you see, every single sound that you hear in the future, every video you see in the future will be originally generated, not retrieved. Which means in the future we need a lot more generators.

>> And these generators is what we built. That's what we build for a living. These are large computers and they're generating intelligence. Now, the next question is this. Well, how big could it be? How big can it be? And so, it turns out it turns out the amount of information, the amount of generation of intelligence is we do it for about a billion people in the world today. Now that I told you that AI has become agentic, meaning that it can actually do work by itself. Well, if it can do work by itself, then one agent can communicate with another agent and say, I have some work to do. Let's team up together. Let's do some work. And now you have all these different agents and they're all working together to solve problems inside your company. Say, so inside our company, Constantine knows that we we're huge users of agentic AI.

We have hundreds of thousands of agents probably running around right now that are doing work and they're talking to each other and they're solving problems. All guardrailed, all sandboxed, all guardrailed and sandboxed, but they're all working with each other. Which means in the future it is very likely that the internet that we use today for a billion people will likely mostly be several billion call it a hundred billion agents working around the clock and they're using the internet and talking to each other and what are they saying? So for example, there'll be uh companies working with companies uh employees agents working with other employees agents. Uh there'll be self-driving cars which are agentic.

There will be robots which are agentic. All the manufacturing systems, every building will be agentic. There'll be agents all over the place and they'll be using the internet and all of those commands that they generate to each other will be generated. all of the thoughts that they have to understand all generated. Does that make sense? And so the basically the world is going to be this layer of computing that's going to cocoon the earth and it's going to be generating intelligence all the time. Now I just said something that sounds ridiculous except in fact it's already happened >> twice.

So 300 years ago a company in Germany called Seammens produced a machine and this machine is really interesting machine. You go up to this machine you light it on fire and then this incredible invisible force comes out the other end. >> Nobody understood what it was. We understand it now as electricity. How many power generators are there in the world? We call it a grid.

Power generation cocoons the planet. We call it the grid. And then of course 20 some odd years ago, earlier than that, 35 years ago, this networking scheme, networking matrix fabric was created here in the United States eventually became the internet. And where is it? It cocoons the world. And so now you have energy, communications, intelligence, and it will cocoon the world. and we'll use it for, you know, it'll just be a commodity and we'll use it all over the place. And so what Nvidia does for a living is this new machine. The machine that was invented three years, 300 years ago is called the dynamo.

That dynamo, anything that moves comes in. Could be, you know, waterfalls, it could be wind, fire, steam. transfer it from motion atoms right to electrons atoms to electrons. We then take the electrons into our machine called Nvidia. Electrons now comes into our machine comes in this factory and what comes out are numbers. These numbers depending on how you combine them turns into language math. It can also turn into a new language. We've learned proteins. We learned the the language of human biology. We learned the language of

the physical world, physics, climate, weather. We learned the language of the 3D world, robotics, self-driving cars.

We learned the language of all kinds of different forms of intelligence. But the point being now these two machines 300 years apart, atoms in, electrons out, electrons in, numbers out. And those numbers could be re-jiggered, reformulated into all kinds of different intelligence. That's what we built. That's what we do for a living. And that's why I call it a factory because it's producing. We call them tokens, but they're just numbers, tokens.

And these tokens are intelligence. That's it. That's what we do. It's not that hard. Brilliant. Now you know what AI is for. And now you know what AI's how AI is built and how how big it's going to be. >> Thank you all for joining today. >> Thank you. >> Good job. Excellent question.

>> I've really felt that carried it. You know the prompt. Um >> you laid it up for me. >> Um okay. So this is a massive revolution. Yeah. >> Um and you you laid out three transformations. uh energy transformation which touches everyone today and a lot of the people in the audience are part of these manufacturing and energy producers globally, telecommunications which connects all of us and now intelligence and in energy you talked about the generator telecommunications I guess the comparable would be the switch or something along those lines for routing communications globally and now in the intelligence revolution it's the GPU at the core and the AI factory like the H100 or any of the the new systems that bring everything you need under the same hood. Vera Rubin, what have you >> and these these factories, so you know, these generators, it's each one of our each one of our units, we call it a rack. There's 72 chips inside. We we we um we manufacture uh call it 8 million of them this year, but but uh 72 of them go into a rack. That rack weighs two tons.

Uh it is uh \$4 million, has one a.5 million parts and um it's the most expensive piece of equipment in the world. And we manufacture them like like um I guess it would be like phones. I mean we crank them out and they go into you know data centers all over the world and yeah we build these machines in volume. They they are big devices. This is this is how you do your weightlifting.

>> Yes, >> I understand. >> No volume discounts. >> Okay. So, you laid out this picture of a very exciting world >> that we are in. We're in the middle of this revolution. We're >> you could say decades in. You could say years in. >> Certainly now in the the mainstream of the intelligence revolution. >> How do we participate? I'm sure everybody here wants to participate in this revolution. >> Yeah, excellent question. >> Let's start with big enterprises and then let's get to individuals as well.

How do people join this movement? >> And so now I gave you two mental models. I'm going to give you one more mental model. So one mental model there really, you know, we could talk about this story and hopefully we cover all four phases. I just talked about what AI can do. I talked about how AI is made and these things are in these factories. These factories are, you know, each gigawatt is about \$50 billion. So if you've ever seen, it's the most expensive factory in the world, but it also that one \$50 billion factory also generates 300400 billion dollars in intelligence. And so the the production value is incredible.

Okay, the return on investment is extremely fast. And so these so that's the factory part. The part that I'm going to tell you now and this is very important when you think about investment is what does the industrial layout look like for AI and the the way to think about the industrial view is think of it as a five layer cake. Now I told you on the bottom is energy. The bottom is remember I said the dynamo. Okay. Now we of course different different AC generators and things like that power generation. And so on the lowest layer is energy. This is the single greatest opportunity in several generations for the energy industries to grow. The very first time in probably I don't know a hundred years since the energy grid in many countries could be invested in. This is the best opportunity to invest in sustainable energy. If you care about sustainable energy, nuclear, air, you know, or wind, solar, you name it, whatever form, hydrogen, whatever form, so long as it produces energy, it's going to get funded. And so that tells you something about how great of a time this is because we have a trillion dollars. Just think this one year, this year alone, we're going to put a trillion dollars from the market into this entire five layer cake I'm I'm about to describe to you. So the first layer is energy.

That's the reason why Siemens is doing so well. That's Mitsubishi is doing fantastically. GE Vernova, I mean everybody. The first layer of the cake is energy. The second layer of the cake is chips and computers and networking and switches and silicon photonics. Does that make sense? It's all the computers. The third layer of the cake, we call it infrastructure. land, power, shell, money, data center operations, every one of them in scarce supply today. And so that's the that's the next layer is infrastructure layer. And then the layer that everybody sees that everybody thinks is AI is the model layer. Does it make sense? That's the next layer. It sits on top of the computers, the the cloud infrastructure.

And this is the greatest opportunity in recent human in human history that I know that so much marketdriven investment is naturally coming into the ecosystem. This is a great time to build and so so now that's the model layer. The model layer is uh open AI it's anthropic but this is the part that you can't overlook. This is very important. So you have two companies that you know of that you hear about. Um uh however don't forget AI as I was explaining earlier has learned the language it learns the language and the meaning the mean the language the meaning of anything that is structural. So that layer that what's really important is so we hear we we talk about all the language but don't forget um we learn any you can learn anything with structure and so let me give you an example of something with structure. Uh today when I walked into room I was expecting a lot of people and it wasn't unexpected the way you appeared.

>> Now if some of you were hanging off the ceiling and floating in midair and some of you you know the one human but body parts in 17 different places um and and I could see through some of you then then it's hard to learn that because every time it's different okay because it's hard to learn quantum things. However, things with structure we can learn, right? People have eyes and so you can learn these things. Okay? And so 3D I I learned the laws of physics. Uh I I sat down and notice I sat down with confidence. I wasn't ex I wasn't 50% 53% of the time I landed safely on the chair. The other 47% of the time I went right through it.

>> And so I can't trust it, but 100% time. Do you guys understand? And so if if you if things are predictable and are predictable then there's structure you can learn from it and you can learn the meaning of it. Okay? And so we learned the meaning of protein. We learned the meaning. We're learning the meaning of genes. Not just

sequencing it, not not just crisper editing it, but what is the meaning of that gene? What is the meaning of a cell?

>> Why does a cell do what the cell does? What happens in two cells coming together? And so this is no different than imagine I learned the meaning of a cell the way I learned the meaning of a word. And what what is what happens when I took take two words, put them together? These two words activate each other, turn into something else of another meaning. Okay? And so from a computer's perspective, it doesn't care if it's a cell, a protein, a word, an image, a car. Does that make sense? It's just tokens.

>> And so we have to figure out as computer scientists, we have to figure out how to represent the world's information in all these different ways so that the computer can understand it. Understand it, understand it, reason about it, come up with a plan, generate an action. the intelligence loop proteins the same way cells the same way the human anatomy is the same way it must be predictable it's predictable because tomorrow morning I'm largely the same it must be predictable okay and so um we're learning all these different my point is there are two language models that you guys know about but AI is a giant industry the industry of everything else physical is about \$80 trillion it is actually you know the most important frontier, the one the parts that we're not talking about. And then on top of that, this model, this technology then feeds into all the stuff that Constantine gets to see these days, which is all of these startups that are coming up with revolutionary ideas in financial services, in legal, in accounting, in transportation, logistics. Isn't that right? And so what that layer above this last year, a hundred billion dollars of venture capital investment, the single largest year of VC investment in the history of humanity.

All of that money is going into that fifth layer, the top layer, which is the the layer that apply applications to enhance human condition. And so there are five layers when you think about AI and you want to invest in this future and I promise you this future is going to be gigantic because two years ago zero it's approximately we're about to put \$1 trillion in but that's 1 trillion out of the you know we're going to be putting in probably the AI industry I'm going to guess for a second probably something along the lines of 20 trillion a year.

We're one trillion dollars in of a 20 trillion dollars a year ecosystem because the production of intelligence, you just got to ask yourself how important is intelligence and who needs it and how much of it do you want? And so those are kind of the basic questions and all of that intelligence whether it's for proteins or cars or robots or language or math, science, whatever it is, has to be generated by these machines. And so this five layer cake >> is the industrial version and I think that's a good way to think about where to invest >> hugely. So so you've described what is a multi-t trillion dollar opportunity to become part of this revolution and that includes the hardware and the facilities. If it's \$50 billion for a gigawatt and there's 100 plus coming online in the next several years, that is trillions plus the application layer where that is many many more trillions plus plus plus and that means real jobs for people doing the the hands in building and then also >> right now exactly and it's we have to we have to really emphasize this and this is very important to you. Um there every country has a different attitude about AI today. Would you guys agree with that? Every country because everybody's culture is a little different. Okay. And and here's here's my recommendation.

Um be careful with with the analogies and the science fiction stories that this is Terminator and and words like

singularity and and um ideas that that somebody say in 20% chance this will be the end of humanity as we know it. Okay, those kind of those kind of articulations of AI is just nonsense. >> It is complete nonsense. Oh, we have no idea how it works. This is so mysterious. We don't even know how it works. It might just get up out of its seat and walk out tomorrow morning.

There's no question in my mind it's computer and software. And there's no question in my mind they know how it works. And do you know how I know they know how to works? Because every single year apparently it's getting better. If you don't know how something works, how do you make it better? I have no idea how it works. But I know how to make it better. That's nonsense. So why are they saying these things? That's an interesting question. However, don't let it scare you. You must engage it. You may or may not lose a job to an AI, but you will absolutely lose a job to someone who uses AI. Would you agree with that?

>> Yes. >> Okay. So, let's not worry about the things you're not sure about and focus on the things that you are sure about. I am absolutely certain I will lose my job to someone who uses AI. So, before I worry about AI, let's just go make sure I use AI. And so the part that now why is that why is that common sense so important for me to tell you? Because some of you have children.

What are you advising them? Run away or make sure whatever this technology is that gives people superpowers that you go make sure you use it. So I'm hoping that we do two things. one, we are and we're doing everything we can to build this technology safely for the world. I promise you so much computer science, so much investment, so much passion dedicated to making this technology safe for everybody to use.

And I can prove it. Use Chad GB2 years ago and use it again. The amount of hallucination completely reduced to almost nothing to the point where it's producing knowledge not only accurately contextually relevant relevant to the moment. And if it doesn't know the answer, it does research. And when it comes up with an answer, it even questions itself before it tells you an answer, it reflects on it. and it comes up with two or three qu two or three different answers and it reflects on those before it produces the answer for you. The amount of safety and guard railing grounding of truth the technology had advanced so fast to make it safe. I am certain I can tell you this completely with fact. I prefer my car today than the car that was a 100 years ago.

The technology is a lot better, but it's a lot safer. >> And it takes a lot of technology to be invented in order for it to be safe. And so I can tell you that it is our job, it is the responsibility of the technology industry is the responsibility scientists and engineers for us to build AI safely. Two, it is your responsibility to make sure that you tell the people that you love, whether it's your family, your kids, your grandkids, or the company you work for, or the country that you're in, whatever we do, engage AI. If we think it's a superpower, engage it. Because if we don't engage it, somebody else will.

We're not going to lose our lives to AI. We're going to lose our lives to somebody who uses AI. And so that's my Well, that that's too serious. >> That's the uh >> that's too ser that was because he said the word job. >> So I've I've got a trigger and the trigger is a bunch of people making stuff up about jobs. >> We put a trillion dollars into the world's ecosystem this year, did we not?

What's it doing? Making jobs. Right now, the energy sector, more jobs than ever. The chip sector, more jobs than ever. Infrastructure layer, more jobs than ever. Everything from land, power, shell, finances, AI model layer, more jobs than ever. And we just said a hundred billion dollars last year went into the upper layer, more jobs than ever. We're creating so many more jobs. Now, somebody might say, well, what about the traditional jobs? So, let me give you the example.

You know that everybody's job and their task is related not the same. A job and the task you do in the job is related not the same. So for example my job is to be the CEO to lead the company. Most of most of the time and I spend a lot of it today most of my time my task is typing and talking. >> And so you could say CEO equals typing and talking. Both of them AI does in a superhuman way and I'm busier than ever. Then give you that of course that's a really cute example but let me give you the a more a deep example and you can now apply it.

So 10 years ago more a slightly more than that one of the world's leading computer scientists wanted to warn everybody about the power of AI. And so he said and Constantine probably knows who it is. He said the first job that AI will destroy and eliminate and I advise nobody goes into this field because this field will be wiped out >> radiology >> is radiology. Computer vision is superhuman already 12 years ago. >> Computer vision. A computer can recognize images, detect anomalies with superhuman capability. Never gets tired, never miss a detail. 12 years ago it was able to do that. and he predicted as a result of that radiology is going to be wiped out. Well, he was absolutely right.

Radiology was completely penetrated by computer vision. Computer vision proliferated through every single form of radiology and every radiology stack and every radiologist today is augmented by computer vision. However, the interesting thing is this. Radiology demand went up. The number of radiologists in the world went up. Why? Audience participation please. Why?

>> I heard some of the things. It's all true. It turns out radiology spends a lot of time studying scans. But the purpose of the radiology, the purpose of the radiologist is to work with doctors to diagnose disease. >> To work with doctors to diagnose disease and because it's now automated, they are more productive. So two things happen. More patients are admitted into the hospital.

They do more scans. The radiology department became more profitable. When they realized they were more profitable and they were admitting more patients, they hired more radiologists >> so that they could admit more patients so that they could make more money, take care of more people because as it turns out, there are a lot of people who are suffering and they're waiting to get into the hospital. So now let's pretend for a second.

Do you appreciate the computer scientists tell you it's going to be the end of the world for radiologists? My point is we have to be responsible about what we make up because we could have done harm. And it turns out the number of people who want to be radiologists after his speech because it permeated through everything the number of radiologists started to decline. >> But we need more radiologists. >> Now somebody recently said 90% of software coding will be gone. And therefore we don't need software engineers.

>> Meanwhile, we're hiring more software engineers than ever. >> Y >> and the reason for that is because a software engineer's job is to solve problems and dream up problems to solve innovate. I never hired somebody and said, "Hey, guess what? You're a software engineer. Listen, here's a keyboard. Show me how many words a second you can type." Typing is not the job of a software engineer. Coding is not their job. Solving problems is their job. And so, I just gave you two examples. Task versus purpose. Does that make sense?

>> It turns out this example happens all over the place. But because we have such a contrived such a naive understanding that computer scientists could say things like 50% of the jobs will be gone. Software coding is completely irrelevant. Radiology is going to be wiped out because we think about it from the task perspective. We forgot the purpose of the job. >> There were radiologists before there were workstations. There are going to be radiologists after AI. There were soft there were engineers before software coding. I promise you that there will be engineers after. Does that make sense?

And so that's the the way to think about jobs. And um I've now covered two things. One, if your country is not investing in AI, there's a massive boom of jobs you're missing out on. If your country or your company is not investing in AI, there's a level of elevation of your people that you're missing out on. AI is not going to eliminate jobs. AI is going to elevate your job. If I were a plumber today, largely I get a job task sheet or a schematic.

However, if I'm a plumber tomorrow, it is very likely I'm a designer as well. M >> does that make sense? Because you and I both know >> Yeah. >> that we could just use AI to generate these incredible designs of a kitchen. If I'm a carpenter, >> I can turn if I were a saleserson of furniture. I'm going to be an interior interior designer for sure. >> And so I've elevated my craft. Went from somebody who sells furniture to somebody who could advise you on how beautiful your home could be. I went from somebody who's a carpenter, you expected me to come and just, you know, put some wood together and now I'm your home designer.

>> You I've elevated my craft. I've given you so many examples, but that's my point. I think the narrative about AI is absolutely wrong. >> And the goal is to scare everybody out of it >> so that some people could benefit from it. But AI, as you know, is the greatest force for eliminating the technology divide in my entire career. >> I spent 40 some odd years, my entire life has been in computer design. I spent 40 some odd years and this entire time the technology we created became more and more and more and more complex and the number of people who could who could program these computers as a percentage of population declined.

>> Who in this room knows C++? Come on, cut it out, you weirdos. This row is just is a startup company. Okay. And so so so this row Okay, so we're we're looking at 2%. Okay, 2%. And this is a very strange room. This is a very strange room. And so 2% of society knows C++. How many people know human? Okay, more than 2%. And so and so everybody now know everybody now can program a computer. And yet in the past only 2% can. We have closed the technology divide.

>> We got to bring everybody with us. Does that make sense? Okay. Anyways, that's it on a Friday night. That's too serious. That that that is extremely optimistic and I agree. Uh and it's great to hear from someone who is closer to actual building of the actual technology that powers everything than anyone else in the world. Um, so

Jensen, you talked about a future where we move from retrieval, this paradigm that we've had our entire lives in to generation, where everything is customized, knowledge is customized for the individual. A world where we have the generation of intelligence paralleling from the energy to the telecommunications revolution to now the intelligence revolution. You talked about these languages that the computer can speak, not just English or German, but even protein. You talked about five layers of participation, a abundant opportunity to participate in this revolution for everyone in this room and everyone listening. And you talked about how this transformation is going to be something that has real consequences.

Real consequences that allow people to move from just doing the task to dreaming the problems and the solutions. maybe even a life of purpose and a life where we move from carpenters to architects. Thank you, Jensen. Please join me in thanking Jensen Swang, the man who made this all happen. Thank you. Thank you so much. You're awesome. Really appreciate it. Thank you. That was great.