Sundar Pichai on Whether Google Is Falling Behind in A.I.

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SUMMARY

Sundar Pichai discusses Google's current position in the AI race, highlighting both advancements and areas where the company is striving to catch up, particularly in coding capabilities. He emphasizes the importance of user trust in AI technologies and the need for responsible development as the industry evolves rapidly. Pichai also addresses public concerns about AI, suggesting that while anxiety is natural, the technology has the potential to enhance productivity and improve lives.

- *Google has made significant progress in AI, but is still catching up in areas like coding.*
- *The company is focused on iterative improvements and user feedback to enhance its AI models.*
- *Pichai acknowledges the public's mixed feelings about AI, stressing the need for transparency and engagement.*
- *He believes AI will ultimately increase productivity and create new opportunities, despite fears of job displacement.*
- *The integration of AI into Google's search interface is evolving, but traditional search options will remain available.*
- *Pichai is optimistic about the future of AI, viewing it as a transformative technology that requires careful management.*
- *He emphasizes the importance of collaboration between industry and government in regulating AI effectively.*
- *The concept of AGI (Artificial General Intelligence) is acknowledged as a goal, with progress being made, but its timeline remains uncertain.*

Senor Pachai, welcome back to Hard Fork.
>> Thanks for having me. Great to be here.
>> So, the last time we had you on the show was in 2023. Bard RIP had just come out. Um, and I think at the time the perception was that Google was catching up in AI. Um, how are you feeling about your position in the race these days?
>> Well, that brings back memories. So, it feels like eons ago. You know, those three years feel like a long time ago now. But I think it's staggering to see how much uh the both the technology is making progress. We've made progress as

a company. Um and I think it's a very dynamic uh moment in moment in the industry.
I think our models are
at the frontier in some areas uh you know and there are areas where we are behind the frontier and so it's a combination. I think if you look at uh you know overall capabilities including text multimodality voice or audio
uh
reasoning in general overall intelligence I think we're very capable uh when it comes to agentic coding with tool use and I don't know instruction following long horizon tasks uh I think uh we are a bit behind uh at this moment But we are hard at work. Uh and and the space is so dynamic. You know, all all of the leading labs have their own pre-training cycles. So you have these cadences and they they may not exactly match up. I think the moment is intense enough that
if you're slightly off
uh you know 3 months ago people are like we are ahead and no one could catch up with us and then you know now the conversation flips. But that's part of the territory of being at the frontier.
I think we are the only large company which is actually at that frontier.
Right. So one way to think about it is there are you know uh in this moment uh there are a couple of startups which have made extraordinary progress and and you know we we are uh we've been deeply working on this for a long time. I think we took a big step forward with 3.5 flash. it does address some of the areas we've been behind. Um and uh I think obviously getting it out in the real

world and iterating with that data coming back uh is going to really help us. I think coding was the area where uh getting access to the data flows was important. I think we maybe quite didn't have the surface uh like plot code uh as an example or or what anthropic maybe had with cursor too and so getting anti-gravity with 2.0 to we've been using it internally at Google for a while. I shared the token usage at uh Google IO. Uh I've never seen anything like it internally, right? We are doubling every week and people are really putting the models to work and so that is helping us hill climb uh quite a bit. But but uh you know the frontier is very dynamic, but I'm very very optimistic and confident we'll we'll push through there. It sounds like if there's like any place where you feel maybe not quite at the very lead where you actually want to be, it is coding. Is that right? Like is that where you're sort of putting the pressure? Look, I think coding ends up being very foundational uh in everything everything uh we do. So I think it's an important frontier to be uh on. Uh there are areas in coding where we've been very good, you know, we've been very very good at creating singleshot web front ends everything. But in terms of this longunning you know uh task where serious developers are working on complicated code bases uh I think we are making progress. It is just that there is a gap to the frontier where others are but we are working you know we are well aware of it and you know making progress there.
>> Uh 3.5 flash has been out for a day. I

do think it typically takes a few days to really put these models through their paces. Um we have seen some complaints though about pricing model quality. curious like what you've made of the reception so far.
>> Uh you know it's uh I'm looking forward to being done with the with my interviews and so on so that I can spend more time on uh with the teams.
>> Yeah, wrap it up please.
>> Uh uh no uh look we we you know I'm going to meet the teams right after this. I think we are definitely um you know it'll take a day or two to settle in. uh I think it's a new model uh and in a new area where we've made some progress there could be some regressions but we will be able to quickly address them through uh through our post training uh pretty quickly I think there are some artifacts and behaviors we are seeing which I think are easy to address so we will u I do think given it was a day after us putting out a lot of things I think we had tightened usage limits to avoid outages but you will see us make uh progress on usage limits uh very soon. Uh that is rightfully a source of frustration when you when you encounter uh I I feel the same but but those are areas we will address uh pretty soon and make progress. It seems like one uh thing that some of the AI companies are succeeding at is focus just you know anthropic and open AI have this sort of relentless focus on coding and open AI was criticized last year for sort of spreading their bets too thin doing trying to do too many things all at once. They've now sort of tightened that. Do you feel like Google is

appropriately focused on coding or are all the other bets you're making taking away resources and time and focus from the main push? I think all of us saw sometime around you know there was an inflection point uh in coding and uh and I think we are all responding to it. Um I I I think
we all have uh you know pretty serious strikes around this area and so I don't see it as an issue for we we are a large company and we have scale so we we we will be able to focus on a few multiple things at the same time. I don't see it as any fundamental issues as much as we are making progress. We're going to make progress. I think we are in a moment in time in this field where 30 to 60 days look like 5 years. That's all it is.
>> Yeah. Another thing that got a lot of attention uh this week was the changes that you all made to the search bar and the the sort of front door of Google. The biggest change in 25 years. Um, I think a lot of people expect that at some point the kind of normal Google sort of classic search interface goes away. The 10 blue links maybe go away and you just kind of have this AI mode as the default. Uh, but you haven't sort of done that yet. There's a lot of integration, but it's still you still can get the 10 blue links if you want them. Do you think that goes away at any point that you sort of rip the band-aid off and just go full AI mode?
you know, I think it's important to bring users along the journey as well as making sure uh the product is working for their expectations.
So, you know, I try not to get get ahead of that. I think it is very clear as we

evolve through these changes, people are responding positively, we can see it in the long-term metrics of the product uh in such a clear way, right? and and and so I think we understand that uh but you know people want search to be fast they I do think through search people are looking to connect with what's out there on the web so that's important to us so it's it's all of that uh so I think you're seeing us evolve the product and I think you'll continue to see it be methodical but you know we didn't have AI mode a year ago uh but now a lot of people are experiencing it I think we have made it more seamless to go there than for and so it's a continuum. Um but I don't see sources and links will always be there as part of it.
>> He was telling me on the ride down that he feels like he basically has not done a traditional Google search in the past year that he's sort of fully doing these AI searches. When you hear that are you like cool like this is the kind of user that I want right now or does it send you a little chill because you know the sort of traditional search ads business is a pretty good one for you?
Well, uh, you know, I think we will, if anything, in the AI mode, you know, in a in a agent, these things are going to do a lot more for you than what we were able to do for users 10 years ago. I think the economic value uh is always a function of uh the total value uh you're giving users. I think all of us would say over time the value we are providing users increases. There's more competition. and there are more choices. Uh so I feel comfortable between a combination of subscription and ads that

the right models will continue to be there. Uh Adam Smith's rules don't change in this new world.
>> Right. Let's uh talk about public perception. Uh the New York Times did a poll this week found that only about 16% of people say that AI is mostly good. About 35% say it's mostly bad. What do you make of the AI backlash that we're seeing right now? And how much leverage do you think Google has to change that perception?
I
>> mean AI is uh you know I've always viewed it as the most profound technology humanity will ever work on. It's progressing at an extraordinary pace.
I you know humans aren't evolved to process that much change
and there are I I think people rightfully so uh are anxious about you know what what is the future that this technology will bring. So to me you know I I I understand it. I think it feels to me natural with like such a profound technology shift. We've had far simpler technology shifts where there has been anxiety around those shifts. This is of a scale unlike anything we've we've seen before.
I think the we as an industry have to do a lot more to continue driving and showing the benefits that's possible with the technology. So that is something in our control.
We have more work to do to make sure when we are scaling up the infrastructure investments etc. you know what are the things we can do to to make some of that work better. But I think people's concerns are a bit more

fundamental uh around the shift uh than all of that. I think a natural part of this is people are anxious about their economic future in this world and you know you have a lot of conversation where people saying um you know jobs are going to radically change some of it will go away etc. I happen to think you know the outlook is better than those some of those uh dire predictions but you know as a society if you're hearing it's natural you know I would be surprised if people aren't more anxious about it I do think it's important because the change is happening so fast you need people to in democracies you need citizens to be engaged be aware that this is happening and you know and and make their uh preferences known that's what causes action in society So I think there's something healthy about this dialogue too which is happening and given the pace at which the technology is moving forward, it seems right to me uh both the concerns and the fact that we need to take it seriously.

>> You're giving the commencement speech at Stanford next month. I'm sure you've noticed or heard that a bunch of commencement speakers have been booed recently by college students who are worried about AI. Um what are you planning to tell the graduates about AI and do you have your like boo strategy in place?

>> Anytime we have driven technology progress I think it uh helps drive progress in the world and in some ways these graduates are actually both going to be a big part of that uh driving that progress and also dealing with the

impact of that technology. So I think we have to be very mindful of that and you know I've always been an extraordinarily optimistic about the next generation. I think we all always have this view in the world, you know, we are anxious and we we worry about the next generation, but I think the next generation rises to the challenge and, you know, builds a better world. And so I view it as no different from those moments and, you know, my goal would be to share, you know, my experiences and and share that with them. And that's what I'm looking to do.

>> You could just pretend they're saying Google like it's close enough, you know? I'd be curious to hear a little bit more about your case that like that you think that sure jobs may change a lot but you know you entry level graduate the economic future is still bright for you like like what is that case in your mind

>> you know at a basic level I do think we are uh you know there is a new level of capability all of us are going to have to be able to do things and and you know I I I wasn't there like when spreadsheets rolled out to people like you know I won't know how you did financial analysis before that like you know how did people do it right

>> I'll say it I didn't do it I had no idea how to do it

>> but you know spreadsheets change that and so there's an aspect of this I think it just is going to change the starting point for many many people just even coding I think if you fast forward the progress

we are seeing there
so many more people are going to be able
to code in the
Right. And you know uh I've heard you
two might be examples of that and like
you know in that journey but I think
you're just at the
leading edge of what is going to happen
more and more. So I think those are the
new serendipitous ways this will all
work out that we underestimate. I think
people are going to be uh more
productive. They will have more time for
leisure. All of that will simultaneously
be true.
Um there are so many areas where today
people's
work you know involves a lot you know
doctors have uh you know high burnout
rates and it's you know it's because
they
train and uh uh you know and their
calling is to spend time with patients
taking care of patients but you know
most doctors would tell you if you you
actually watch their time the percentage
of time they spend with patients is uh
uh less right so I think AI will
actually help them do more of that right
I I think I think those are examples of
it the radiologist analogy has been
fascinating it's been now a decade
running I look at
myself and I say well I've gotten a lot
more scans in my life than my dad ever
did and each of the scans have like 10x
amount of information than his scans had
because they were constrained by
printing film versus us being digital
and I think that number is going to be
10x in 10 years. So where is that
projection going into you know you are

actually going to need AI to keep up right with with that demand coming. So I think it's nonlinear how the impact of all this will be. This is not I don't want to be um I don't want in any way to minimize every technology shift brings disruption with it and you know I think you know there will be disruption and we as a society need to be super serious about it and engage and so some of the conversations I think are rightful in like you know uh thinking through that but I do think there are u many uh positive uh dimensions to it which are maybe not being talked out and I think and and also there's uh overly deterministic dire scenarios which I quite don't agree with as part of it.
>> Um let's talk about agents uh cuz I feel like agents actually tie sort of into this question of well what is going to make us more productive in the future and how will it change our job? Um, later this summer you're releasing Spark, which I seems sort of intended to be an agent for uh the regular person. And I'm so curious to know like could you walk us through something this agent is doing for you personally?
I've used it a lot more in my uh professional context more to the context because of uh it was mainly available in my corp account uh right as part of it. In that context, uh I've definitely used it as uh it's super easy to use it to prepare for any meeting. Uh I wish I had brought the prompt/ the output for like I just as a test case used it for hot fork.
>> Honestly, if you email to us, we would flash it on the screen.
>> Yeah. Well, yeah,

>> it has some things about the two of you, so I don't think I can project it.
>> No, that's what we want. We want that. We want that. We want to know how I drag. I'm not sure I'll allow that, too. No, I'm just kidding. Partially kidding.
>> Used to see Casey's browser history.
>> Partially kidding. But I have had it in my personal account more recently. Um, so again,
>> here's a simple task I did. I just asked it to uh just look ahead at my meetings and color code it in categories so that I can keep sense of how I'm spending my time.
I think, you know, it's extraordinary to watch it. It came back with like you know uh suggestions of two color coding schemes and I just had to choose one and it's actually like sci-fi. It's just like you know changes the color in the calendar. Personal meetings, health related meetings, you know, time I'm spending at work etc. That's an example of a personal query I just did just to see what's happening, right? And um but with agents, I think you have to give people a sense of I think about this as what allowed us to get someone to sit in the back seat of a self-driving car, right? We did it in steps. And I think there's an element of that where with agents if if something unexpected happens I think you know people will back off from this and you know so part of it is earning their trust and so giving them a sense of control transparency but more importantly from a security standpoint these systems you know can be hacked and so we want to make sure we are not ahead of the frontier in a in a in a wrong

way. Speaking of meetings and your calendar, we hear that you're headed to the White House uh for some kind of AI executive order signing. Um what should the government be doing right now to regulate AI? Do you like this idea of a kind of pre-release uh strategy where the government gets to sort of see models before they're released and sign off on them? Is that a good idea? Is that potentially dangerous if it gives them the ability to censor or uh job own companies into releasing different kinds of models? What's what's your take on that? Look, we'll have to wait and see the details of the full executive order, but they've been very uh uh uh they've engaged with the industry in a very robust way. Uh and I think uh the approach really balances uh you know innovation and o oversight. uh we'll have to wait for the details to come out
but you know there are a few areas which are coming up you know we will need more cross industry cross industry government coordination so it makes sense to me cyber is a great example of that I think we all have to work together it makes full sense to me if you have found an exploit which could impact a governmental agency you know that the government needs to be prepared for it so uh so there is validity but of course doing in in a in a moment with this important technology where it's important as a country to be at the frontier too not doing it in a way where you're overly slowing things down and maybe that balance has to shift as we reach more advanced levels of technology but I think I think I think to me this

seems like a a a prudent approach uh in general I've you know you know part of what we are doing with uh you know building synth ID open sourcing it and then sharing it with others and more importantly building a consortium together I think is an example of in a different area. These things only work together if we can come together as an industry. So, so you know I'm I'm glad they're approaching it uh uh in that way.
>> Yeah. Another sort of safety related question. All of the big labs are racing toward what you call recursive self-improvement. So building AI systems that improve themselves rapidly. Um do you think that can be done safely and do you feel like you have a line of sight to it right now?
you know, these models are getting better at, you know, coding and agentic workflows. And so at some point, you know, you you know, we did, you know, we did, you can see in anti-gravity today, you know, in over 12 hours, it can build a simple OS from scratch, right? And, you know, that is
genuinely those are multiple thousands of hours for somebody to do, right? So you are seeing some of that in work today. We are all in our products in some version or the other have agents and sub aents and the orchestration of those agents building uh things together. It's a continuum right and I think I think we are all definitely making some progress
but in the way people describe RSI I don't think we are there yet and you know and I I I you know I that would represent a next level of acceleration

and I think you know and I think would have a lot of implications but we aren't quite there yet. Is there like a plan for uh oh um like I mean great news sooner like we just hit RSI like is there a sort of do we do we break glass or what happens then? It's it's a great example of like look I think all responsible labs I think I think if you're approaching moments like that you would be uh you know consulting with you know it shouldn't be an internal conversation at that point I think it has to be a much broader conversation conversation than that and I think we all have to avoid race conditions uh at at those stages of uh AGI
>> right now all the labs are racing to get more compute
There seems to be bottomless demand for compute. Uh they're hoarding it wherever they can, striking deals, uh you know, building their own data centers. Google is still selling access to TPUs to rivals and other companies in the race. Why why aren't you just keeping that for yourselves and your own models?
I I think
each is not a constraint on the other, right? So as long as we can make enough chips, it's not a constraint. So right the right way to think about it is we have our we have GDM and our first party services. If you can think about that as a company business cash flows, you're planning for that. And then you have Google Cloud, which is a business and which has revenue cash flows and you're doing long-term plan and you're planning for that, right? So if you didn't have cloud and we weren't providing we wouldn't be planning those

chips anyway right and so that's at the simplest level obviously you know it's a bit more complex than that but there are a lot of advantages of providing TPUs to others uh the fact that researchers at anthropic are using TPUs is what will allow us to make in addition to us allows us to make uh the best hardware in terms of next generation and and by the way we use Nvidious uh uh uh chips too and the next generation chips are incredible and so we use that and we we work to when you're running platforms I mean you have a platform side of the business and you know I I I've always have worked on many platforms in my life and be it Chrome or Android or Google cloud you know why why would you ever open source something or why do you provide this technology I mean all that makes sense on its own merits I do think there are advantages like I mentioned it allows us to stay at the frontier, you know, economies of scale helps uh in in in various ways. And so uh it makes a lot of sense that way.

>> Yeah. The last time we had you on um we asked you about AGI and your feelings about the term and at the time you responded that it didn't really matter whether you've reached AGI or not because the systems are going to be very very capable and Google's strategy should be the same. Um I noticed that you did not say AGI in your keynote. Demis did but but you did not. What's your relationship with the term AGI today and sort of the idea that all of this progress is building towards something singular and world changing?

>> Oh, we are, you know, there is inevitable progress towards AGI that's

happening. I've long understood it and you know otherwise I wouldn't have pivoted the company 10 years ago to like put that technology at the heart and center of the company. uh all I meant by that statement was
even in the scenario AGI is going to take 10 years the technology which 3 years out will be so much more powerful than what we have today that I don't want people to think because AGI is 10 years out you don't need to act or prepare that is all my statement means in those context
>> are you AGI pilled
>> uh well I I absolutely you know uh I'm sure that the techn technology is making uh foundational progress towards AGI. I'm less able to predict with certaintity whether it's in the 3 to 5 year time frame or 5 to 10 year time frame. The rate of progress over the last 1 to two years has made me feel it's on the closer side than not. And you know I just don't
you know in your role running one of the largest companies in the world which has a responsibility to society the language I choose to use around it might be different uh than than other people but uh I think you know as a company in terms of uh you know 10 years ago the IO stage I announced TPUs and AI first data centers uh you know yes clearly understood where this technology headed. Maybe as a last question, one of the more memorable phrases I think from the keynote this year did come from Demis when he said that we're in the foothills of the singularity. Can you tell us like concretely what that means from Google's perspective? And should people be

excited about that or afraid or both?
Look, I've had many conversations with
Demis obviously on this topic and uh I
think I think in this context he's
I think he's defining singularity as the
advent of AGI, right? I think he's
talking in that context and you know I
think if you think regardless of if I
remember I think he had he had kind of
articulated by 2030 or so I think if you
believe that it makes sense to you
that's that's what you're articulating
and you know it's as simple as that. I
think for him uh that's how we define
singularity and and and I think Deis
myself many others we all feel it's
important to
if that's what you believe it's
important to articulate that because we
are all at the frontier building this
technology and you know hopefully people
are listening and I think it's important
to as a society we are internalizing
that and and and getting ready for it.
>> Senor Pashad thanks so much for coming.
Thank you, sir.
>> Thanks.
>> Great to talk to you.
>> Appreciate it. Take care.