

# Smarter Tech, Smarter People, Smarter Planet

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I've always been fascinated by technology because I think it's the one thing that can make us have the best lives possible, that things could do things for us that we couldn't do for ourselves. I think the handoff to automation will be gradual over the next 50 years. I think we're seeing it happen. We just don't even realize how much it's happening. In the future artificial intelligence is going to become far closer to human intelligence, and we're going to start modeling emotion. Emotion is foundational to artificial intelligence and rational decision making. It's the foundation of common sense. It's what led us to survive.

Now as intelligence starts becoming more embodied in terms of in robots, in sensors, these things will also have to know how to survive and navigate, and they're going to have their own sort of emotion model. It's actually going to help them learn to interact with us. You give feedback to your new intelligent devices of the future, your intelligent cars, your intelligent personal assistant, your intelligent robots by reinforcement from what you tell them in a positive or negative tone, just the way that, you know, children learn and dogs learn.

So right now sensors allow us to keep track of things that we normally would not track and make sense of things that we might not otherwise make sense of. What if I had a personal assistant for my life who sort of knew what I needed and could make recommendations, and suggestions, and follow me around all day? How



physiologically stressed I am might be measured by something like heart rate or galvanic skin response. Only sensors could tell these things. It gives an objective measure of my physiological state, and I can sort of benchmark that against, you know, how much time did I spend driving, how much sleep did I get, what did I eat, and can I collectively learn these things not only every day throughout my life, but are there people who are similar enough to me that I could consider them virtual proxies for me, who are also collecting this information, and see what are their life choices, and then look at the outcomes? What would I need to do to live a healthy, full, happy life, and then make intelligent decisions?

So in 2064 I think the world of transportation will be drastically changed, especially for urban environments. Right now I think safety is one of the most critical problems we're facing. I think that driving is actually an unnatural act. It's not like your skin. It's not like your senses. It's not like your body. I have great control over my body. I don't have that same sense with my car. Unfortunately, driving is very necessary. You know, we're expected to travel distances that are only convenient by car, but now, you know, if those things can be done for you, you can free up your life to do other tasks. And I imagine there's going to be a strong demand for autonomous vehicles, such that we can reclaim part of our lives.

I think artificial intelligence is going to have a huge impact, you know, across the globe on our lives, especially in cities. One of the major problems of cities is the transportation routing problem, and believe it or not that gets solved by artificial intelligence. What I imagine what we'll have are these small autonomous vehicles that sort of roam around the city that you can summon. So it will be like taking a taxi, but it will be much more efficient because the entire road will be filled with the autonomous cars, so everything will be perfectly scheduled. The cars all talk to each other, and everything can go much faster than a human can drive it, because the sensors will allow the safe stopping distance to be much, much smaller. So in a world where all cars were autonomous this means there's not going to be any cars parked anywhere. For most of a car's life it is not used. It is just taking up space somewhere, just sitting on the streets, or in a parking lot, and you're not using it. If these cars were a shared utility, you could get more utilization per vehicle, entire streets that could be reclaimed as green space or open space for people.

No one would get hit. You could let your children play on the streets of New York. It would be safe. I think we owe it to ourselves to all live the best lives we possibly can. I think it's what we want for our children, it's what we want for ourselves. When we have robot assistance to help us, when we have personal AI, and we have autonomous pod cars to take us wherever we want to go, our lives will be more free to think of the next big thing, to expand the realms of science and technology. These things will unburden us from the tasks we don't want to do, and free us up to do the really important creative work that we need to do.

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