

# Catalyzing Computing Podcast Episode 2:

## Interview with Suresh Venkatasubramanian Part 2

Intro [00:00:10]

Hello. I'm your host [Khari Douglas](#), and welcome to [Catalyzing Computing](#), the official podcast of the [Computing Community Consortium](#). The Computing Community Consortium, or CCC for short, is a programmatic committee of the [Computing Research Association](#). The mission of the CCC is to catalyze the computing research community and enable the pursuit of innovative, high-impact research.

We are joined today by CCC council member [Suresh Venkatasubramanian](#). Suresh is a professor at the University of Utah. His background is in algorithms and computational geometry as well as data mining and machine learning. His current research interests land in algorithmic fairness and more generally the problem of understanding and explaining the results of black box decision procedures. Suresh received a career award from the [NSF](#) for his work at the geometry of probability as well as a test of time award at [ICDE 2017](#) for his work on privacy. He joined the [CCC council](#) this year.

This is part two of my interview with Suresh. If you haven't heard [part 1](#) and would like to, click the link [in the description](#).

Interview [00:01:18]

**Khari:** How did you first get involved with CRA and with the CCC? Have you been going to CRA events for a long time?

Suresh: No, I haven't but I've always sort of watched them from afar. You see all the postings, you see the [Taulbee Surveys](#) the CRA puts together, that [postdoc program](#) — I had a postdoc who is now a faculty member at Utah through the CRA program, umm...

**Khari:** The [CI Fellows](#)?

Suresh: Yes, the CI Fellows program, thank you. I've known about what the CRA does for a long time. I've always felt like they really represent the computing research community in a very effective way, and they speak with a voice that is very powerful. So I've only known them from afar. I've heard about the CCC, but I never fully understood what it does even though I was a practicing researcher. I didn't quite know what the CCC does, but once I learned more about it I said "Oh, this is a good group and it would be nice to get involved with them somehow."

**Khari: Could you maybe pitch the CCC a little bit now that you've been a member for...I don't know six months? Less than that?**

Suresh: Less than six months. The very informed opinion of a person who has been here for less than six months. [Laughter] I hope Mark doesn't kill me for this. [Laughter]

Okay. What does the CCC do? What we try to do is keep an eye out for...even more than keep an eye out, we try to encourage new trends and new directions in computing, and link up the people who are doing the work with ways that they can actually make this work happen and actually have an impact on the world from the work they're doing. This is very vague. So what do I mean by that?

So think about say [efforts in quantum](#) or efforts in the new [workshop in thermodynamic computing](#). Quantum is an older discipline, thermodynamic computing is a new idea. So you have a new idea — you're a professor, you have this new idea. You're seeing some interest from your community bubbling up from the bottom. The first thing you might think of doing is to organize a workshop at a conference, try to pitch it. Maybe that'll work, but you'll get people who tend to go to that conference. You probably won't get people who don't go to that conference already.

If you have an idea that probably needs people from different disciplines or different walks of life to come together, you're not going to do it at a workshop or a conference. They're just like "What is this conference? Why should I go?" So you need some kind of way to get people together. That's the first thing the CCC helps you with. You can pitch workshop ideas, they can give you the resources, the administrative support, and the money to get groups of people together. Then once you do that — you have your ideas, you've got the

workshop, you've got the people talking to each other — but now you've got to write papers, you've got to get some support for this. The CCC also does a very good job in trying to pitch these ideas to agencies who might be interested in funding such work. Not at the narrow level of funding one particular topic but as part of a larger, broader picture.

You might be doing this workshop and someone else might be doing another one. You may not know each other, but the CCC does and they can integrate all these different strands of efforts into one coherent whole to pitch to funding agencies and others to say “Hey you know this is something that's coming up from the community. Let's try to support it.”

I see the CCC as a major facilitator, a sort of catalyst if you wish, to make these things happen. These things don't happen by magic (this is one thing I've learned). It takes a lot of backroom effort and effort from people who don't normally get seen to make your ideas of a research program become a reality. Having seen how that sausage gets made, you can see the role that entities like the CCC have in actually making a research agenda come to fruition and making it a viable ongoing concern. If you're a researcher and you want to build a new program, you have ideas and a group of people, come to the CCC and talk to us. It's our job to see if we can make it happen for you. It's not our job to censor you and tell you what to do. It's our job to listen and see if we can help you make this research agenda happen, because that's what our job is.

**Khari: I do think one of the fun things about working at the CCC is getting to interact with the community. In the spring we held a workshop on [socio-technical interventions for health disparities](#) and we colocated it with the [science of behavioral medicine conference](#) in New Orleans, which was great because we could bring in researchers in computer science and health informatics with all the behavioral medicine people that were already there, because they had to be there for their other conference.**

**So those kinds of things are a great way to get involved with the CCC. If you know of a meeting that you could bring computer scientists to or bring social scientists to a computer science meeting.**

Suresh: I will say, a lot of the reaction from research is like “Oh my God there's so much work. I've got to write this next paper — I can't really afford to spend the time organizing a workshop.” That's the other thing the CCC helps a lot with. The logistics of actually putting such an event together, and the finances...just getting everything organized and sending out the invites. There's a lot of help the CCC provides to organizations who want to do this. It's effort, yes, but it's a lot less effort than it would be if you do every single thing yourself, including getting funding for it.

See, one thing we have to realize as researchers (and it's very hard to realize this) is: we think that ideas are the currency because we were all about the ideas, but ideas are at some level not that hard to come by. What's hard to come by is to connect because connection takes time and it takes resources, and if you can have something that can help you make those connections to build something that's what you need entities like the CCC do this for you.

**Khari: So the CCC has a number of [task forces](#) that focus on different areas. For instance [cybersecurity and cybercrime](#) as well as [health and human-to-computer interaction](#). You're involved with the [Fairness and Accountability Task Force](#). Could you talk a little bit about what you guys have done so far this year and what you plan to do going forward?**

Suresh: “Done so far this year.” Such pressure. You sound like my department chair.  
[Laughter] “The main thing we've done...” [Laughter]

Ok, so first of all I should emphasize this is not a new task force. This has been around from earlier. I don't remember all the names of all the folks who were on it. I know [Cynthia Dwork](#) was involved in this before, and [Liz Bradley](#) was in it as well. There was a [privacy and fairness task force](#), and now we're focusing mostly on fairness. It's a group of people on the CCC who are more focused on a particular topic because there's this belief among the council that this topic is worth monitoring. So the fairness and accountability task force recognizes the increasing importance of thinking about the way algorithms are deployed in society, in decision-making, and decision-assisting scenarios and worrying about issues of whether these algorithms are fair, unbiased, whether we have accountability and transparency for how they're used, and all the issues surrounding it.

For example, one of the things that we're planning to do is to organize a workshop on [fairness and economics](#). Fairness is one of these topics where, depending on how you look, people have been thinking about this for 2000 years. Go back to Aristotle, go back to earlier, and look at theories of justice, look at the political science world. Sociologists, economists, lawyers, philosophers — everyone has weighed in in some way on what it means for society to be fair. What it means to conduct yourself ethically. What it means to do what's right, to treat people well.

We are the latest sort of newcomers in the game, so it's very important that we bring these communities together to understand everyone's perspective and to understand what we've learned about what works, what doesn't work, and how these perspectives are similar. How can we be reinventing the wheel and how that wheel is maybe not the same wheel as before. Maybe it's a motorbike tire but it's still wheel like. This example of a workshop bringing economists and researchers in fairness together is great because now we'll get this whole different perspective on how to think about incentives and mechanisms to build in to achieve fairer decision making with algorithms. That's one of the cool things the CCC does is help bring these communities together.

**Khari: I think it's worth mentioning, for people listening that might not know, most CCC events are by invitation only, but of course if you hear this podcast or find out on the web and you're interested in an event you can certainly reach out to one of us and get an invitation.** Should also mention that the Fairness and Accountability Task Force held a workshop this spring on [Fair Representations and Fair Interactive Learning](#), which recently released a report titled [The Frontiers of Fairness in Machine Learning](#), so that's available on the website and on arXiv for people that are interested in learning more.

Suresh: That's a great report that [Aaron](#) and [Alex](#) did. It's really good — for people who want to understand what's happening in the field right now, it's a great report to go look at.

**Khari: So, I guess we mentioned a little bit...we don't want to get too political, but in recent times, since especially the 2016 election, there's been sort of a lot of discussion around whether the world is sort of [1984 Big Brother](#) with new technology or a kind of Huxley's Brave [New World](#). Do you have a viewpoint on which**

**of those you think we're going? Is that perhaps too pessimistic? Should we be more optimistic and less depressed?**

Suresh: I definitely think we're more Huxley than Orwell. For me the difference is to what extent are we aware of the situation we're in. One of the diabolical things about 1984 was the idea that thought was a crime. That merely thinking bad thoughts could be punished or should be punished in some way, and so there was a lot of effort to suppress and quell your bad thoughts. But you get to Huxley and you get to Brave New World and you don't even realize that those thoughts have been banished. You're not even aware anymore of the class you're being put into — whether an Epsilon or an Alpha. That to me is a compelling metaphor for the way social media and our mediated world is kind of filtering out, without us realizing it, what we see and what we don't see. Optimism I think means we believe there is a better way. In that sense, yes, I'm optimistic, but it's not pessimistic to realize that we're in a pretty bad place because if you don't do that you won't start thinking about how to fix it. So you do have to recognize the problems you're in.

I think these problems are tricky. I think they go back to deep-rooted notions of how people operate in society, where we are fundamentally tribal in many ways, and the way in which technology amplifies the worst parts of our nature. Along with better parts of our nature: think of Wikipedia. I could not think of a better way to illustrate how people can work together to come up with something that's just so amazing. But then you also have [4chan](#).  
[Laughter]

I'm running the risk of getting myself doxxed, but anyway. It's everything we are magnified by a thousand. I don't know what we do with this. These are our own instincts coming to stare us in the face. We are we are sort of gaping into our own souls and not liking what we see there. But it's now blaring in our face as opposed to a whisper in your ear that it used to be, and I think that's the problem. To the extent that I am part of the people who are building these tools it worries me even more.

**Khari: Do you have any thoughts on how potentially algorithms could help solve these problems or a direction that you've seen that looks promising?**

Suresh: I think we have to think more creatively. We have this idea that “Oh we have a problem, we will fix it with an algorithm” or “Oh we have a problem the algorithm made it worse,” and this binary is not helpful. You know I've been a part of this binary for a bit. It's not helpful. It's not helpful because it assumes that there are only two options. All we can think about is whether the algorithm replaces us or not. One thing I think personally is that the HCI has become a much more important part of computer science as a whole. I think there is at some level some recognition that there must be better ways for us to interact with our devices, interact with machine, interact technology. And we're still thinking “OK we'll have tech do this for us or do that for us.” I'm still waiting for the world where it's a seamless assistant — not Siri or Alexa but a seamless assistant that helps us without telling us what to do, or without filtering us out, or being paternalistic in the way we see a lot of tech doing and working right now.

So when we say, “How can tech solve problems,” it still feels very paternalistic to me. Ok, we'll use tech to solve problems we can solve. I think, how do we use technology to bring out the better part of our nature. Clearly we can. There are places where we've been able to do this. The entire web, maybe pre-commercialization, is an example of technology bringing out the better parts of us. But we have to think more creatively about how we do that. I think we're not quite there yet — we're still in phase 1 of how technology collides with society. We need to get to phase two.

**Khari: So an example of a thing that I know you had mentioned seems like it might have some problems is facial recognition technology and biometric data. Can you talk a little bit about that?**

Suresh: So what is the problem? What is the issue here? We now have software to identify quickly where a face might be in an image, and we have further software that can attempt to identify who the person is by looking up a database of images and saying “ok this face in this live image or this live video stream looks like this person's mugshot or this person's picture that we've taken from some other source”. And so the idea here is there are many reasons why people want to use this now but the most obvious one is surveillance. So now you have this technology sitting on your street, on your cameras and it can constantly monitor people and track them, in kind of a [Minority Report](#)-ish kind of way or other way like that. The problem I think, right now at least, is that these tools are packaged without

context. In other words, here is a facial recognition box, throw the box whenever you need facial recognition and we're done. And I think one thing we saw with some of the problems with the tool at Amazon released that the ACLU in Northern California was that if you deploy this black box in a situation without the right sort of framing around it then all kinds of things happen that you don't expect.

So one of the larger questions around technology that shows up here is that we think of technology pieces like black boxes: you just throw them in and then magic happens; add sugar to your cereal and suddenly it's sweet. It doesn't work that way because there's a much larger context. The context in which you insert technology is as important as the tech itself. If you don't understand the larger context and how the tech's going to be used you're going to have problems, and there's a whole field of study, science, technology, and society, that talks about all these issues. So the problem of facial recognition I think is a microcosm of this general idea that we'll build some tech and throw it in somewhere. We'll sell it so our responsibility is over. We'll sell it to someone and how they use it is their problem, and that's not how this works. We cannot ignore that we have chosen to package up facial recognition as a single black box when actually you have to look at the larger context in which it is being used.

**Khari: So, what kind of context has it been used in so far?**

Suresh: It's been used in pilots for the most part for now. There was a well-known example of one such system to monitor people attending, I think, a football game, a soccer game in England and the error rate on that tool was very high. It was something like a false positive rate of 96 percent of people hitting a database, and then you get the question of "Well, yes there's a false positive rate but we'll have people looking at this to check to see", but with that high false positive rate you've got to wonder what is going on. There has been some incomplete information about whether this was being used in Orlando or not with the police department as a test or not.

Again it is very hard to get information about all of these things and a lot of these things are happening in secret, which itself is a big problem. There's no reason why that should happen. The public needs to know what is going on. Again it's mostly used in sort of surveillance. One of these body-cam companies wants to use basically monitoring of body



cameras to identify whether an encounter is likely to become a threatening encounter or not. One of the things they might use for that is facial recognition. So most of these so far have been sort of security-related applications. So, I don't know.

**Khari: Ok, but can you imagine, I guess, if it becomes more common maybe companies have facial recognition technology that knows when you come to work as opposed to punching in a time card? Maybe? I don't know.**

Suresh: Yeah? So I guess the question with all these things is, why? So you're a company, you say, "Ok, we'll use facial recognition to see if someone showed up or not?" Why would you do that?

When Apple builds in face ID on their phones and all this it's like, "Oh it's easy you just look at your phone, it's great!" I think that rhetoric of "Oh it is just easier to do this," is very tantalizing."

Like "Oh yeah, I don't have to worry about my badge I just show my face the screen." But there are consequences of this. As one study showed, if you have different skin color and the face recognition might not be trained properly it will not recognize your skin. Now suddenly you're standing in front of the door to your office and you can get in. You to show your face five times before it lets you in. Now that's not just an inconvenience, that's a statement that you are different just because the system is not smart enough to recognize what you look like. That's not cool, and it's not easier. It's easier for someone but it's not easier for you for sure.

There was a time I remember when, you know when you go through immigration now you scan the camera, in the beginning they had the system I used to have the hardest time getting my face scanned through it. I don't know why. I'm not saying it was because of my skin color or anything, but it was very hard and now it's gotten a lot better, but it's just embarrassing. It's sort of awkward. So who are you making this better for? When you put it out it sounds like a cool, whiz-bang technology but what exactly is it doing to help people? I think we don't ask that question enough: who are you helping with this by putting the system in place? Are you really helping everyone? Are you helping the same people you

always help and ignoring all the people you've always ignored? How is this making the world a better place?

**Khari: Right. So you also helped start the [ACM FAT\\* Conference](#) which I believe stands for fairness, accountability, and transparency.**

Suresh: Yeah, there's a star at the end. It's a sort of a computer science joke right. So it's a real expression, so it'd be fairness, accountability, and transparency in any area not just say in machine learning or... In any area.

**Khari: Can you talk a little bit about how you started that?**

Suresh: I was one of many people. I was one of a large group of people who started the conference, so I want to give everyone credit for that. So what we were, so we'd been...so there was this workshop that was being organized at the machine learning conference, the main machine learning venue [NIPS](#). A couple of folks there put together this thing, again recognizing that there's this growing interest (it started I think like 2014) in thinking about the way we deploy machine learning in society. So we had the workshop for a number of years and you could see the demand just sort of skyrocketing for research in this area. And this led us to believe we need to have a much larger venue — a conference if you wish — where people can come and talk about this. And one of the things we've recognized early on is that this has to be an interdisciplinary conference. This cannot be just a computer science thing because a lot of the questions coming up, a lot of the ways to understand the questions coming up don't come from just technology they come from outside.

We tried to bake this idea of an interdisciplinary venue from day one into the conference, and so we have multiple tracks, we have people from sociology, from the law, from economics, from philosophy coming in and giving presentations with last year's conference. That's the vision for the conference, and it's a hard vision because communities are naturally siloed. Again this goes back to what the CCC does. Communities tend to be very siloed and you need ways to connect-up communities together, which is what the CCC does, among the things it does very well. One of the things we've been trying to do with the conference is to make sure we get people from different communities to find value in this conference so they're willing to show up and attend and actually talk to each other about

their work. So that's the vision. We're in our second year of the conference now and we're hoping to keep it going for as long as we can.

**Khari: When is the next conference?**

Suresh: It's going to be January 29th through 31st in Atlanta, Georgia.

**Khari: Okay, and if people want to get involved, what's the process?**

Suresh: We've got a huge number of people registered already but go to the website, [fatconference.org](http://fatconference.org) and maybe you'll still be able to register at this point...it's a busy time. We're glad, but it's also kind of...we're oversubscribed, but definitely check it out.

**Khari: For anyone who's interested in maybe trying to start a similar kind of conference, what would you recommend? What were tips?**

Suresh: So we have some already. There's the conference on [AI, ethics, and society that AAAI runs](#), which is another venue. A good way to start up is to say "Who is in my community?" I really want people to start thinking about these issues, maybe I can organize a satellite workshop at my community's main conference or main venue where people show up. You should reach out to us and we can give you some advice, we can help you. I mean I'm helping organize a one-day event, hopefully in Hong Kong sometime earlier next year.

Having both disciplinary workshops and area workshops. I think the issues of fairness and accountability in India are very different to what they might be in the US and very different to what they might be in Europe, to different parts of Africa and South America. I think that's another good way to think about this. How do these issues play out in your part of the world? Because it involves law, it involves society and culture and that varies a lot across the globe. I don't think the U.S. has the monopoly on how to think about these issues. So think about it from a discipline point of view and from an area point of view, and come talk to us and we can help you, give you advice, and suggest people you might want to bring in. We can definitely help with that.

**Khari: Sure, and we talked before about needing resources to get this kind of thing going. Were you able to get resources directly from ACM or how did you get the funds to hold this workshop?**

Suresh: We've got some organizational resources from the ACM. We have a lot of funding support. If I tried to list all our funding support right now I'll probably forget half of them and I'll get into trouble, but the [Omidyar Foundation](#) has definitely supported us, we've gotten money from the [Ethics and Governance of AI Fund](#). A lot of companies are interested in sort of helping out because they recognize some of the problems here. So we are able to get...it takes work and we've got a great group of people who are actively going out trying to solicit support for us while keeping our research process independent, that's also an important thing. So we've been able to get support for doing some of this.

**Khari: So we've covered a lot today. I don't really have any more detailed questions but is there anything more we didn't cover you want to talk about or anything else you want to pitch, plug?**

Suresh: I think if you are an early-stage researcher, let's say you just joined a faculty somewhere — congratulations if you have — and you're overwhelmed by everything you should keep an eye out for what the CCC is doing, not because we're asking you to get involved right now (although if you want to that's great), but you should keep an eye out for things that are happening because these are signs of trends that are bubbling up in the community that you might want to get involved with.

If you're someone who has sort of a more stable research pipeline you're coming up for tenure or you're confident in what you are doing and you want to see what the next directions are, you should definitely, *definitely* talk to folks in the CCC — maybe someone at your university is on the council. The CCC tries to make sure that no more than one person comes from any university, so we have tried to spread out. So talk to someone from your university or someone you meet at a conference and see if you can pitch some ideas yourself if you have ideas for things you can do to broaden the work you're doing. And if you're well established all the more reason you should be coming and talking to us. You should know about us already and if you don't shame on you. [Laughter]

**Outro [23:17]**

**Khari: Thank you Suresh for being here, it was a great conversation. I hope everyone listening enjoyed it. If you want to learn more about the CCC you can find it on our website [cra.org/ccc](https://cra.org/ccc). Tune in for more podcasts where we'll be interviewing other members of the CCC council, workshop organizers, and participants, so check us out.**