Debate 1 - *The costs of large, global, in-person conferences (like ICRA) outweigh the benefits.*			
Question text	Upvotes	User Name	Submission Time
If all conferences go virtual, won't it further limit future opportunities for young students (esp. underrepresented, non-US/EU), since they already have low-accessibility to top labs.	50	Anonymous	09:02:12
Debate 1: I advocate for a publishing/conferencing system as in biology & medecine, where you publish your full work on journals, and everyone goes to one single big conference. this way, only one big conference every year, less traveling and costs, less incremental papers, more time to do science	13	Anonymous	09:06:35
Why not have more diversity in Speakers? There is already a bias in selection of speakers in this panel. Give spaces to people whose voices are not heard even within the Robotics and AI community.	83	Diversity. Reduce the Bias.	09:12:23
Moreover, I think that conferences are a great opportunity for students to gather contacts and know people outside their office. If all go virtual, all go to work from home, how should we get these contacts and know other scientists for ideas, work contacts and, why not, friendship?	20	Anonymous	09:14:23
In virtual conferences, how do we prevent people from just logging in to advertise their work with a couple of quick sentences, spamming all the channels they have access to, and then disappearing forever to go back to work? This prevents any interesting discussion from happening.	6	Anonymous	09:16:06
Will the debate be recoreded? So ther people who missed the discussion can also access to this valuable resources.	2	Anonymous	09:17:06
Flights and trains are ran despite the number of peoples that takes them. We've seen this also in Covid times planes flying completely empty.	2	Anonymous	09:20:55
One of the problem may be the increasing in acceptance rate (close to 50%), that leads thousand of people @ICRA. A more selective conference, thus lower acceptance rate, would lead less people to move, so more grants available	9	Anonymous	09:21:50
As a follow up to the question about limiting future opportunities for underrepresented, non-US/EU students if conferences go virtual, is there a way to make sure virtual (and live) conferences can better represent such students?	5	Anonymous	09:22:00
No Speaker from the Black Community? Your audience can suggest many if you are unable to create a Panel representative of your audience. Most members of your elite panel have too many platforms available to them to voice their views. Time for some of them to give spaces to under-represented voices.	56	Time to Hear. Not Speak.	09:24:48
Aren't conferences less important for established and well connected researchers, but more important for new researches that need to be integrated into the community? And it also serves as a reward for long, hard, and often lonely work.	56	Anonymous	09:25:07
Why aren't we arguing for both? In person conferences along with the online resources developed during these times of crisis.	38	Anonymous	09:30:04
To what extent are academic conferences purely social events?	21	Anonymous	09:30:24
Without in person interaction, what is the risk that young students fail to form meaningful human connections outside their own school, or country?	4	Anonymous	09:30:51
So Katherine and Ruzena: are you neglecting the great time with friends, the good travels, hanging out, visit new countries, know new stuff different from your own etc? So, Katherine, why IMPRS is not virtual? Or why we were working in office increasing our day-2-day carbon footprint?	2	Anonymous	09:31:11
In the spirit of debate, it would be good to acknowledge that there's currently a debate going on about racism, and there are multiple views on the matter. It's a poor choice to assume everyone in this community shares the same view. Lets avoid using this platform to promote our personal view.	4	Anonymous	09:31:15
Should this workshop have more racial, geographic and prestige diversity in order to capture all perspectives? There are robotics researchers in India, Macedonia, Egypt and South Africa (to name a few) who face unique problems like poor exchange rates, chronic under funding, systematic bias....	26	Anonymous	09:31:37
When discussing virtual events, we are seeing the challenges with time zones for individuals across the globe. If accessibility is a "For" argument, it does not seem to consider this aspect. Telepresence also creates a disconnect similar to what we are experiencing from months of working at home.	8	Anonymous	09:34:47
Why don't we do hybrid conference? Authors and some authors guests have to be in the conference but the conference can be streamed and interacted through virtual chat room. I know it's difficult to judge who have to be in the conference or not. However, we will find the optimal solution.	23	Anonymous	09:36:57
So Katherine and Ruzena: are you neglecting the great time with friends, the good travels,hanging out,visit new countries, know new stuff different from your own etc? Katherine:why IMPRS is not virtual and you push people to go social? Or why we were working in office increasing our daily footprint?	4	Anonymous	09:38:07
The debate questions asks about "costs"; do you think that conference access fees are too expensive? it does not question the interest of the conference itself	16	Charles	09:39:06
What about the economic benefits to the country / region / city that hosts a large a large conference? This could help recovery post-pandemic.	1	Anonymous	09:39:30
Perhaps a good compromise would be to reduce the total number of conferences, quality over quantity.	6	Anonymous	09:39:37
True debate would require metrics. Would ICRA be comfortable releasing statistics about interactions on the paper slack channels? My experience so far has been of very little conversations on slack channels. Poll on Slack indicates 40% paper with no engagement	25	Anonymous	09:39:46

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It shouldn't be about holding virtual vs real conferences...I was expecting to hear more about unrealistic costs of the IEEE conferences. Can both pro and against people comment on that?	44	Anonymous	09:40:26
Can online conferences help with keeping individuals more accountable to prevent xenophobic or sexist behavior? Individuals feel comfortable propagating some behavior due to the lack of evidence, which we now have in the form of recorded text or video.	2	Anonymous	09:40:34
To Dudeck: would you be ok in having on single conference per year, conserving the advantages of physical conferences, rather than N fragmented big-to-medium conferences?	2	Anonymous	09:41:00
Attending an ICRA Conference in person requires money for air travel, visa costs, line up for visas, hotel costs, food costs. How many Blacks, Under-represented segments can afford to attend them? Whites and Elite Speaker who can afford to attend every year, create a hegemony of their views.	106	Reinforcing Biases and Inequity in Society	09:41:54
The top comment relates to Katherine's comment about accessability. People without all priviledges are not able to attend so much, and therefore, less known, and generally disadvantaged. The panel composition is proof of that, e.g. how Stanford is a common theme.	5	Anonymous	09:42:41
The debater, Prof. Kuchenbecker told that she participated in numerous conferences. The problem I believe is here. Why professors are participating in so many conferences? I believe almost all the benefits counted for the participation benefits most the people who are at the advent of their career.	5	Anonymous	09:42:48
Why don't we balance between both? For sure it is great to meet and discuss with people personally, but many researchers can't attend because of different reason. This year is a good example of we can do it remotely.	4	Anonymous	09:43:00
the "three months results vs. three months promotions" argument raised by Ruzena is the key aspect!	4	Anonymous	09:45:31
It isnot about age diversity, it is about people who are not heard! I was expecting a fair answer.	4	Anonymous	09:45:37
Why is there always just black and white? What about a hybrid approach? We could start by uploading videos from conferences like the organizers of ROSCON did last year. Beyond that you could also integrate a tool like this here to allow students to follow and ask questions during a live talk.	7	Anonymous	09:45:58
What about independent researchers who for some reason are unable to perform their work under the auspices of an institutional affiliation and all the privileges that it confers (such as conference funding)? I could not have afforded to attend ICRA2020 had the tragedy of COVID-19 not occurred.	6	Anonymous	09:46:16
shouldn't ICRA be organized in under represented countries where its easy for scholars/students from Africa/ Asia to attend and network ? and not always in EU/North America and western influenced countries (S.Korea/ Japan) or Australian region where they already have enough resources n ease of travel?	19	Anonymous	09:47:21
Ruzena makes a good point. But the people who do go to more conference get an advantage, career-wise. How do you change the system, so that going to fewer conferences is a stable, and hopefully even optimal state?	9	Steve Heim	09:48:08
I am an undergraduate in Southeast Asia attending the workshop. Unfortunately, I wouldn't be able to do this if the conference was held IRL.	7	Anonymous	09:49:44
Should robotics conferences be more about show rooms for real robots than meeting about ideas and discussion about numbers on graphs and tables?	6	Anonymous	09:49:47
1) Conferences and organizers tend to ignore those who cannot obtain visa, etc - providing virtual access to physical presentations is a must for organizers! 2) Quality of interactions of young students with senior researchers in physical conferences varies a lot (based on gender, shyness, looks)	7	Anonymous	09:50:01
What about the inspirational effect on students to have a global opportunity to present their research to other researchers? Can this be reproduced online?	3	Anonymous	09:50:18
One argument against conferences is the inordinate cost. It is nice to travel to exotic places and stay in exclusive hotels but for many people, they would rather forgo all that so they can actually benefit from the knowledge exchange.	3	Fadl Isa	09:50:28
Can you comment on how virtual interactions have affected research and how this will affect inter-university collaborations?	36	Frodo	09:50:55
as a master student, the option of stretching my conference budget by virtually attending or presenting to some and physically attending others is definately appealing	6	Anonymous	09:51:04
Should every tenured professor publicly commit to attending a limited number of international events per year (I propose 3) in order to save money, allow junior scientists to have their voices heard, and be more equitable to society?	3	Anonymous	09:51:16
I am not sure how many people attended the Agility Prime conference earlier this year. It was meant to be in person but ended being the best online event ever organised and far more successful than the in-person conference would have been. See: https://agilityprime.com/	3	Fadl Isa	09:52:47
Virtual work is a privilege for those who can afford good home-work equipment and dependable internet access. This is not to be taken for granted in all countries	3	Anonymous	09:52:55
+1 to Katherine on bringing up evolution of the virtual format! We can't evaluate this topic without considering the POTENTIAL, not just the Current Reality of virtual formats. This format is all in it's infancy, but changes are already coming, i.e. spatial.chat is one example	15	Anonymous	09:53:02

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The costs of conferences go to the local business, helping economy. What about this aspect?	3	Anonymous	09:53:02
Conferences have become THE place where to publish for computer science, replacing journals as the place for archival work. This has put a tremendous pressure on conferences. When thousand of papers are submitted to a conference, the review process becomes messy and unfair. We need an healthy mix.	8	Anonymous	09:53:03
I agree. I made many wonderful academic relationships through socail events at conferences	6	Megan Heath	09:53:41
At best, Zoom has a 150ms sound delay in each direction (300ms total) whereas the upper bound for normal human interaction is 200ms, in both directions. How can we build meaningful human relationships? Source: https://www.economist.com/books-and-arts/2020/05/16/why-zoom-meetings-are-so-dissatisfying	3	Sepehr	09:53:45
Should we have smaller, local chapters of conferences running in parallel, connected virtually?	3	Anonymous	09:54:00
All Prof. Kuchenbecker comments benefits just the professors. I believe in her idea student are just meant to stay in the lab and work, then the other professors can come and see their demos!	2	Anonymous	09:54:40
Gregory- taxpayers shouldn't be responsible for funding your social interactions!	2	Anonymous	09:54:42
What about the environmental consequences of all the flights taken by researchers? Many biologists are boycotting in-person conferences because they cannot justify the negative impact on the environment it would require to travel there.	4	Anonymous	09:55:06
Listening to the Speakers, I imagine that there are depths of physical conferences that I've yet to experience, hence can neither agree nor disagree to them, and sort of hope I can experience that soon one day. However, I really think (future) conferences should have virtual accessibility.	3	Anonymous	09:55:22
Our community is promoting the quantity over the quality of scientific publications and the results is "big conferences". We should change the way we evaluate scientific results.	3	Anonymous	09:58:02
Can we, as a community, have a debate about going double-blind soon, please?	15	Mark Bench	09:58:16
The connections can be made in research exchanges. How many research exchange could happen with the effort and money put into one large conference? (for students with no privelege at all)	3	Anonymous	09:58:27
wouldn't the best option be to have both? when registering create an option for virtual attendance which has a lower cost.	3	Megan Heath	09:58:54
There's already a bias in the conference organization community where Euro/US-centric conferences draw more researchers which begets a rich gets richer economic & research effect for these regions, and the rest of the places and ideas get ignored.	8	Former researcher	09:58:55
How should the tools evolve to facilitate the social interactions to replicate the conference to create social connections? Would the solution be tools like social networking sites like Facebook/Twitter for researchers!	3	Jakub	09:59:21
So stop doing research because it's a cost... What's the reasoning behind that? Reading it's a cost, working it's a cost, everything is a cost! And travel: are you going to give me your money to travel? Most PhDs have funds, scholarship which acknowledge and pay for one/two conferences a year.	2	Anonymous	09:59:31
Double blind needs to happen - what is the downside?	4	Matthew Watson	10:00:12
also, having the presentations available virtually, especially the workshops and debates, is proving to be indispensable for being able to get the most out of the conference. we can now view all presentations not just one for each time slot.	8	Megan Heath	10:00:55
If we say that large conferences are inaccessible to marginalized groups, why is the solution to replace them with another solution, rather than make them more accessible?	3	Sepehr	10:01:06
Why don't you organize ICRA in an Africa country?	12	Anonymous	10:02:28
Let's be honest. Conferences have allowed researchers to travel the world and see new places with no personal costs. A lot of research money is spent on travel/registration fees. Yes, it supports the local economies but does it produce results for science comparable to the research dollars spent?	7	Anonymous	10:03:08
I've spent more than 6K€ for my Bachelor and Master. I can pay 1K to go to a conference (and get that refunded maybe)	1	Anonymous	10:03:09
Long story short- rich white man wants to continue traveling for free on the government dime. Quality debate. Support African science, stop preserving US/Eurocentric conference structures.	5	Anonymous	10:03:20
I'd just like to point out that the cost of high education is almost zero in a lot countries. So we don't pretend adding some thousands of dolrs of conferences is nothing in comparison.	6	Anonymous	10:04:12
I agree that the cost of conference is not affordable. I wonder if there's any way to cut the cost. Most conferences are held at expensive 5-star hotels. Is it possible to get a cheaper venue instead? Also, maybe the organizers can also recommand some cheaper accommodations?	6	Anonymous	10:05:35
This is for Katherine and Ruzena. How likely are they respond to cold emails? Without the big conferences for that initial introduction, it begs the question about how the initial connection will be made?	3	Anonymous	10:08:02
publishing costs are often waved for special issues which we get access to at conferences. what about that benefit?	1	Megan Heath	10:09:36

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Is it possible to have a hybrid structure for these big ICRA like conferences? The benefits of in-person conferences are definitely enormous but could there also be an option of attending them virtually which might help increasing the accessibility?	3	Anonymous	10:10:33
We should charge conference fees based on the country wealth and subsidize poorer country by charging rich ones	3	Anonymous	10:10:37
A lot great ideas debated. How do we translate it to concrete actions? (Consolidate conferences, change formats, etc)	1	Anonymous	10:11:21
someone yesterday made the analogy that conferences are like getting a book at a library vs. online shopping. at the library you can see what is next to it on the shelf and meet others shopping in tha same section.	2	Megan Heath	10:11:59
people also use other forums to communicate like linkedin after the first meeting	0	Megan Heath	10:14:00
In my experience on Slack and zoom workshops: about half of my interactions have been via personal messages, not posts in my paper channel or topic channels	1	Anonymous	10:14:19
What if we enhance the virtual experience to be more like an in-person conference? For example, actually create a "3D game" (kind of like sims) where people can wander around and "see paper presentations" and "talk to people in the corridors".	2	Anonymous	10:14:30
@Gregory: But IEEE is also earning a lot of money out of all its events. In that sense, IEEE is not so much different with other big publishers. We need to discuss having fair registration fees for IEEE events as well!	5	Anonymous	10:15:08
Both formats need to improve to help people make connections. I would argue a vast majority of attendees only show up and don't know how to create networks. Both formats need to improve formats to create interactions that can lead to connections.	3	Anonymous	10:15:30
why doesn't the moderator go through the most popular questions/comments rather than picking those he likes more?	7	Anonymous	10:15:59
I attended ICLR recently and they had time slots for all authors to be available in their zoom room and rocket.chat channel for live discussions. It was more engaging than our current ICRA.	6	Anonymous	10:16:19
"there's currently a debate going on about racism, and there are multiple views on the matter. It's a poor choice to assume everyone in this community shares the same view." I hope that it's safe to assume we all share the view that #BlackLivesMatter. Sadly, given this comment it's worth clarifying.	4	Anonymous	10:17:08
I agree with Katherine. Why workshops are called workshops for example. They should have at least one bit of practical interaction. Instead, they are more time listening to someone speaking. Same as the plenaries and other talks.	3	Anonymous	10:17:39
and how about those who cannot physically go to these conference due to childcare commitments?	5	Anonymous	10:19:15
Improving the ICRA 2020 virtual conference: Having clashes between keynote speeches and workshops this week has made it very difficult to engage properly with the paper slack channels. As the conference is online, would it not be better to avoid as much as possible any overlaps & improve engagement?	5	Fadl Isa	10:19:27
Virtual tends to be one-way. The voice of the audience is not really heard or incorporated. This sessions really reinforces it. Only 5 opinions are being voiced on a rather large and broad topic.	4	Anonymous	10:19:33
in this forus we the viewers should be able to comment to each other and debate amongst ourselves to have more voices in the conversation.	2	Megan Heath	10:21:51
The only major concern that needs to be fixed with in-person conference is the carbon footprint. Any insights on how to fix that?	5	sandeep	10:21:56
Bad: Bunch of white panelists talking about their privileges. Worst: They are oblivious of events around them when talking about how Conferences have helped them meet other people socially. Staying in hotels is a time out for them. Do Blacks, Asian, Immigrants, Latinos even have hope?	7	Change	10:22:36
If the vendors were not for profit would they be any good?	0	Sepehr	10:23:38
@Meghan Heath - Totally correct. Virtual allows for side bars that could get the audience more involved and connected.	4	Anonymous	10:24:15
Conferences have become so big that face to face interactions are far less than 10 years ago accept for colleagues you already know. A virtual or hybrid model would allow better access for more students.	5	Anonymous	10:25:18
What solutions are the panel proposing to attendance costs $$$?	3	Fadl Isa	10:25:23
Some student can't attend some country for example chinese or middle east country. they have high chance to being reject by VISA immigration	5	Anonymous	10:25:28
The "number of places we can go" is directly related to a global history of EU/US-centric countries' influence in Africa, India, etc. I think this is why it's even more important to lift voices from these countries, and represent them in the robotics community.	3	Anonymous	10:27:28
What were all the debators true affliations/opinions? Pro/con :)	4	Anonymous	10:27:32
yes good job on adapting !	2	Megan Heath	10:27:44
In my experience, the smaller the conference, the greater the interaction with people.	3	Anonymous	10:31:11

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good job oliver	0	Megan Heath	10:31:59
Thank you all!	1	Fadl Isa	10:32:11
We hear your requests for diversity in speakers and we agree! Email us at icradebates2020@robotics.utias.utoronto.ca if you'd like to get involved in organizing more diverse future versions of robotics debates.	42	The ICRA Debates Organizing Committee	10:32:17
Once again the responsibility for representation is being thrust upon those who are underrepresented.	2	Anonymous	10:33:04
YES! volunteer and change the dynamic :) I have found conferences love having people participate with new ideas	2	Megan Heath	10:33:32

Debate 2 - *Robotics research is over-reliant on benchmark datasets and simulation.*			
Question text	**Upvotes**	**User Name**	**Submission Time**
don't you think that the community should go public in diversity, racism and the urgent questions with a joint document which every institution can sign? A document like the Tim Cook's one	15	Go Public!	10:42:30
Why is the entire panel for all debates made up of researchers only from elite prestigious Institutions?	7	Anonymous	10:45:48
well said michael	0	Megan Heath	10:46:27
Without benchmarks most undergraduates and many graduate students around the world would be shut out of robotics research. So the question is how can alternatives by made widely available? I hope the panelists will address this issue.	41	Anonymous	10:46:37
If we are indeed over-reliant on benchmarks and datasets, what is the replacement? It is surely an ailment that comes with a very saturated field, in terms of number of researchers and amount of money poured into it.	18	Anonymous	10:48:32
Datasets, Simulations, Lab experiments are all useful and sometimes necessary. But more and more applications involve robots in human environments. How can we ALSO get these robots into real or near-real situations to study both their performance and their impact on people?	6	Anonymous	10:50:27
Where are the student in the debate?	3	Anonymous	10:51:17
Benchmarks and open datasets make robotics more accessible to institutions with less funding and resources (like robotic platforms, cloud computing credits, compute machines).	24	Poorer Institutions can participate	10:52:06
Standardised benchmarks are a key pillar for assuring research robustness - but provided code is released and results are reproducible!	8	Matthew Watson	10:52:39
Why not advocate for benchmarking best practises rather than the benchmark datasets? We need more datasets, open datasets but also concrete methodology on how to compare multiple techniques on a new domain	15	Anonymous	10:52:44
Elite prestigious institutions? They have become "elite presitigious" through sweat and hard work. Please limit this discussion to the research topic, I beg everyone.	15	Anonymous	10:53:31
How can we judge if datasets are biased, e.g. towards underrepresented minorities for face recognition or credit scoring?	7	Felix	10:54:00
Black lives matter!	1	Anonymous	10:54:30
Many comments pointing out that the panel is composed of researchers from prestigious elite institutions(I agree).But there is another fundamental question here: would people participate in events where people are unknown and from less prestigious places? How to make the alternative also attractive?	5	Maira	10:55:43
Is reproducibility just a hardware issue? If we reduced the cost of hardware by 10x or 100x would this problem just go away?	4	Anonymous	10:55:57
How can industry and academia contribute together to make better, open sourced benchmark datasets?	26	Frodo	10:56:16
Broader access to datasets is needed. No publication without publication of datasets.	5	Anonymous	10:56:36
What about establishing standardized physical platforms as a complement to simulators and virtual benchmarks?	4	Mark Bench	10:56:44
Question for Alexandra: you say current benchmarks are limited. What do you think would qualify as a general benchmarking framework and how broad should this be?	4	Mihai Bujanca	10:57:28
I think that the problem is how the community fine-tunes to the extreme their systems just to claim to be the first on a well-known benchmark dataset (which sometimes are also wrong).	20	Anonymous	10:58:15
What are the major issues with today's simulators? What are the most promising ways we can overcome them? What limitations will remain 10-20 years from now? How much of that work will be done by roboticists, and how much of it will be done by people in graphics?	8	Anonymous	11:00:10
Although benchmarks are helpful for accessible 'apple-to-apple' comparison, they need to be evaluated constantly to avoid potential biases and shortcomings. Also this evaluation should be part of the project, not a new research topic. Maybe dd 'where does the method fail' section	1	Anonymous	11:00:39
What minimum level/type of data validation is required for a researcher to be taken seriously in the field?	0	Anonymous	11:01:46
How does safety come into play? Can a robots safety truly be evaluated in simulation or is hardware required?	17	Anonymous	11:02:00
In which specific fields or tasks do you think the improvement in dataset is urgent as of now?	9	Anonymous	11:02:13
We're missing the real question: everyone knows that simulator and benchmark data are mandatory(you cannot put an AV in the street w/o testing in simulation first). The question is should researchers continue fine-tuning over dataset.	8	Anonymous	11:09:02
The real question is another. Benchmark & Simulator are mandatory. But papers should not be evaluated based on that. Otherwise researchers will spend their time fine-tuning over benchmark dataset. That's the actual point here	45	Bart	11:09:18
A circle consisting of datasets from real world robot data with the ability to be replicated in a simulated environment and seamlessly be transferable back to an actual robot system seems to be an ultimate goal to me.	0	Anonymous	11:09:23

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benchmarks are convenient to be sure but in order to maintain comparability they are not analyzed for inherent biases. how do you respond?	0	Megan Heath	11:10:28
If we only use software-based benchmarks (e.g. KITTI), then is it even robotics?	25	Sepehr	11:10:47
How do we guarantee that datasets are correctly built so that the work/paper using these datasets can be trusted? See what just happened with all questions on the data used to evaluated the relevance of Covid cures...	8	Charles	11:10:49
Most of the academic work is most of the time not directly deploy-able in robotics. Sometimes it is very difficult to even reproduce the results. The results in the academic paper are sometimes exaggerated based on just simulated data and simple metrics.	3	Shubham	11:10:55
Amplifying question by previous Commentator: NONE of Panelists are going to get affected by Biased conclusions their AI Algorithms will lead to. Eg: AI leading to Longer prison sentences for Blacks. Computer Vision likely identifying immigrants, homeless, poor people as threats. Diversify. Its 2020.	52	Anonymous	11:11:38
Benchmarks can be a quick, quantitative way of comparing performance in papers - but how can we guarantee that metric of performance on a specific benchmark is the actual performance we want to measure? (e.g. an approach that exploits a biased dataset to perform well, but would fail generally)	5	Anonymous	11:12:14
To Vijay . So there are task specific benchmarks and they focus on improving a specific task which doesnt get's converted to real world systems. Wouldn't a system level benchmark will help in improving progress in system level ?	0	Anonymous	11:12:23
OpenAI Gym is nice, but we want our robots to operate safely next to humans, for example pedestrians or people living and working indoors. How accurate are human simulation models? What's lacking in terms of realistic and purposeful behavior?	9	Anonymous	11:12:38
Is it possible to create system level rather than component level benchmarks? What are the evaluation metrics for a full robotic system?	4	Anonymous	11:12:57
I feel like results demonstrating half-cheetah are quite deceptive, as no robot acts like half-cheetah.	2	Anonymous	11:14:03
For actual robotics, the over-use of simulation might lead to a bias towards results that are more/only applicable on clean simulations vs noisy real world. Similarly, sim experiments are often easier to argue for and defend in papers vs. actual real imperfect results. Both are bad for progress.	3	Anonymous	11:14:34
I feel simulation is good to test your algorithms. This can help in development and able to carry out repeatable experiments But this should not be the only basis to validate the methods/algorithms. There should be more ablation study for real world scenarios.	2	Shubham	11:15:35
Wondering if we need a better benchmarking system beyond better/more benchmark problems	0	Anonymous	11:15:42
Machine learning has highlighted the ethical concerns around data. Are their ethical or fairness concerns that are specific to robotics (rather than machine learning)? Are these concerns exacerbated by benchmarks datasets?	6	Anonymous	11:15:59
I totally agree with Vijay about the necessity of measuring _system level_ performance. Isn't that _exactly_ the problem with simulators and existing benchmarks where methods developed for them fail spectacularly on real robots.	3	Anonymous	11:17:45
It is our responsibility as reviewers to evaluate if a paper/work is valuable based on the experimental protocol used (datasets or simulations -- or field trials!). But do we have enough information in papers to have a fair and informed judgement?	5	Charles	11:18:32
Don't really good simulators often need to be run on very powerful computers? It doesn't seem like this solves the expensive resource access problem. Maybe a better solution is common standards for cheap robotic testbeds, e.g. 1/10 scale autonomous RV cars	3	Anonymous	11:19:28
if benchmarks are a thing, all code should be released to ensure that no "cheating" or "fine-tuning" is happening (counter-productive fake progress).	5	Anonymous	11:21:28
As we know, simulation and benchmarks are very important. However, we know the gap between simulation and real world. My question is when we need to stop working on simulation and benchmark and implement on real world? As Michael said that is it really important to increase 90% to 91% accuracy?	3	Sunglyoung-Kim	11:21:41
In the interim, while sim2real transfer is still an issue, should there be standardized metrics and disclaimers that fully simulated findings are required to declare? In particular, concerning the debate surrounding Autonomous Driving which has real consequences when transfer is not perfect.	3	Kenneth	11:22:20
Don't you think that robotics relies on vision but also many vision algorithms are not good enough? For example reflective surfaces, HDR etc..	1	Go Public!	11:22:53
Why don't we have benchmarks for standard robots for variety of tasks? Rather than performing ablation study only on datasets and simulators.	1	Shubham	11:23:29
The problem is not using datasets but claiming that a problem is solved if it works on simulations and datasets.	2	Anonymous	11:23:31
how do you account for different types of hardware systems using the same benchmark? Robotics happens at so many scales (size and cost), and evaluating performance on a single benchmark creates bias towards more expensive devices.	2	Anonymous	11:23:51

Debate 2 - *Robotics research is over-reliant on benchmark datasets and simulation.*			
Question text	**Upvotes**	**User Name**	**Submission Time**
What are the main issues with current datasets? What do we need to better evaluate robustness? Davide's group has already done a lot in the direction of robustness. What's yet to be addressed?	1	Mihai Bujanca	11:23:59
It seems that there is some consensus that we need to develop better benchmarks for robotics which have a "real-world" component to them (just like passive but real image-based datasets in vision). So the real question is how can we develop such benchmarks in robotics?	2	Anonymous	11:24:19
Is there still place for papers/works with interesting and original new ideas, but that have not proven to be efficient on the latest trendy benchmark?	11	Charles	11:25:02
The problem is that if there are too many datasets then their use is dubious..."find a dataset where the algorithm works best".	2	Anonymous	11:25:28
Is there an analog for the ML Reproducibility Checklist for robotics experiments?	4	Anonymous	11:26:40
Most of the academic work is biased towards fine-tuning the methods to work in the simulator, which I believe is not at all robotics research.	2	Shubham	11:26:55
Pieter, at some point, 0.001% of progress is easily tweaked by tuning parameters for specific datasets.	2	Anonymous	11:27:29
really nice moderation	3	Anonymous	11:29:05
Do you think projects like the Amazon DeepRacer are going in the right direction by providing simulators in combination with relatively low cost hardware?	1	Anonymous	11:29:51
Creating valuable, well documented public benchmarks should be recognized as a extremely worthwhile research contribution. Influential examples in ML include the MNIST dataset (old) and the ImageNet dataset (still current). What would constitute set of similar benchmark in robotics?	1	pjr	11:30:13
It should be: dataset + simulation \subset benchmark	1	JA	11:30:15
Benchmarks require performance to be boiled down to comparable metrics - how do we meaningfully quantify real world robustness and other 'qualitative' but important performance criteria?	2	Matthew Watson	11:30:40
Are particular sub-areas of robotics easier to benchmark and standardize than others?	1	Anonymous	11:30:54
Petition to rename Michael to "Michael Moderator" since he's born to do this apparently	8	Anonymous	11:31:37
I am wondering that, given a benchmarking dataset, those big companies with great amount of GPU resources might easily put forward methods that beat those from other research agents with less GPU resources on gaining better performance by intensive training. How to solve this GPU tyranny?	2	Anonymous	11:31:58
Which advice you give to a young that we want to do research?	1	Anonymous	11:32:19
y'all talkin like robots is just Deep Learning now.	6	Anonymous	11:34:12
But should results on a particular dataset be the only metric for evaluating a paper? Are the results always more valuable than the fundamental idea that a paper is proposing?	0	Karnik	11:34:14
Should industry and academia view this topic (the game of competing on benchmarks) differently? Industry cares more about going from 99% to 99.99% while academia cares more from 0% to 1%?	6	Chen Feng	11:34:30
Is systems-level robotics research something academia should do or is this the responsibility of industry?	4	Anonymous	11:38:37
This debate looked like Deep Learning research is over-reliant on benchmark datasets and simulation. It would have been good to have at-least on member from industry to get this point of view.	1	Shubham	11:40:08
Simulators in aviation and spaceships are heavily relied on during training and development. how is this any different than robotic development ? how is it better/ more accepted?	2	Megan Heath	11:42:55
It would have been good if a member from Boston Dynamics was involved, were real world experiments are performed and way ahead than academia research.	0	Shubham	11:43:03
Are benchmarks accessible enough? How do we make it easier to evaluate a larger range of aspects, which may not necessarily be the main point of the paper, but are nonetheless important? (e.g assess the robustness of a system even if robustness is not the focus)	0	Mihai Bujanca	11:44:46
@Megan Heath: Simulators in aviation/space are great to practice operation procedures. But no one would argue that it replaces actual flying.	1	Anonymous	11:50:05
How reliable are freely available datasets like ImageNet (1million images) as compared to unavailable larger datasets (such as Google's dataset which has ~100million images)	2	Anonymous	11:52:17
How about creating expandable datasets. Where people keep adding more data/edge cases!	1	Rohan	11:58:02
At the olympics in South Korea there was a robot skiing competition. Should the olympics have a parallel "robotics olympics?"	1	Anonymous	12:00:38
Many actual robotics competitions (real-world) need huge amounts of engineering and integration, and therefore may not even reward actual research if the metrics are not chosen very very carefully.	2	Anonymous	12:02:31
I see academics focusing more on improving accuracy on datasets to get their papers accepted in conferences than on safety/reliability and robustness of system. Do you agree?	0	Anonymous	12:02:43
can we get an A+ for Michael Milford	2	Anonymous	12:02:48

Debate 3 - *Robots designed for personal or household use have failed because of fundamental misunderstandings of HRI.*			
Question text	**Upvotes**	**User Name**	**Submission Time**
Thanks so much Hadas for your powerful words! That was appreciated and it was supposed to hear this answer from the first panelists.	10	Marwa ElDiwiny	12:16:29
Do safety issues count as "fundamental misunderstandings"? I feel like fun robots are not safe and safe robots are not fun, and thats why consumer level robots haven't taken off.	18	Ali Kuwajerwala	12:16:55
How much personal and household robots will be useful in such kind of pandemic situation?	3	Anonymous	12:17:21
No matter how advanced the technology or products, a lack of understanding of user experience and usability will be always a gap in the development of products that actually work. What are your thoughts on the use of interdisciplinary frameworks, such as inclusive design or ergonomics?	9	Anonymous	12:20:57
Is HRI really the most pertinent aspect to think about when you consider the success/non-success of robots in the home environment?	7	Anonymous	12:21:48
Not just personal and household robots exist in societal contexts. How do we approach these problems through a sociotechnical lens? What social, ethical, and bias concerns are there that are specific to robotics?	16	Anonymous	12:22:36
Can Prof. Moon's position be paraphrased as: Social robots that do not serve additional functionalities are not really appreciated nor wanted by the consumers?	3	Anonymous	12:22:48
I am really glad to see more female roboticists! But why are they mainly in the Human-Robot Interaction area and not much seen in other robotics areas ?	8	Anonymous	12:23:32
Is the misunderstanding of HRI, causing people to fear the "robots take over of humans"	4	venky	12:26:04
Does the debate proposition assume as an axiom that Social robots or pervasive domestic robots a desirable outcome?	5	Anonymous	12:27:09
Is it too early to think about or work on HRI because robotics itself is not solved completely in uncertain or dynamics settings, so our robots don't work well from a functionality perspective (not even safety), and people end up not trusting them?	5	Anonymous	12:28:27
Hi Jen you mentioned that we still have a lot of work to do before a close-to-perfectly huminoid robot. What areas do you believe we are most behind in and what areas are we closest in (nlp, movement, understanding, learning, computer vision, and any others) to be able to do household chores?	32	Sebastian	12:29:29
I strongly disagree with Jen. Although acceptance of new technology is an obstacle for the introduction of new products, blaming the user for not "understanding" why they need 'robots' affects final usability.	1	Anonymous	12:30:49
What are examples of real needs in HRI?	19	Anonymous	12:32:50
To point on the 'lack of focus of systems in the real world', I think this comes from a few incentives talked about in the previous debates. How can we focus as a field towards rewarding in-person, real world systems? I find that a lot of work focuses a bit too much on "computational model"/in-lab	5	Tom	12:33:23
Should we try to translate/implement results from social science studies on robots ? (e.g. psychology studies on proxemics, rationality) How ?	5	Anonymous	12:34:13
I agree with Maja 100% but even if we follow all the suggestions she proposed we still would not know some essential and needed aspects of social interactions if we are looking for robots for "personal" use.	0	Anonymous	12:34:31
Have Robots failed because they amplify inequity? How many Robots can identify Blacks, Asians correctly? How many aimed at fighting diseases of Rich rather than Malaria? How many used by Law Enforcement and unfairly target Blacks, Immigrants? Get a Black Person, Robot-wronged person in the Panel.	38	It is 2020	12:34:56
A fundamental misunderstanding presented was that robots are not solving real societal needs. Can the panel share and discuss needs that robotics can address?	1	Anonymous	12:35:00
We focus too much on the unique side of physical robots such as their physical embodiment and non-verbal/ verbal cues, but not the interface and experience itself in well-accepted HCI methods, e.g, GUI on touch screen in combination with the unique characteristics of physical robots.	6	Anonymous	12:35:33
Are there scenarios where simple cost-benefit analyses break down?	2	Randy	12:39:10
Why does it feel like there is quite a lot of consensus among the panelists? :) Not looking for a fight, but perhaps in the next round of statements, the panelists can dissect the contrasts in their positions	6	Anonymous	12:40:23
They fail because they don't solve a real problem of society. Something which humans hate or don't want to do.	2	VM	12:41:51
Panelists: Get real. You are talking about use of Robots as Vacuum Cleaners, Entertainment? In real world, AI robots used by Law Enforcement leave lasting damages on poors, black families, immigrants and minorities. Robots speak the language of Elites, Rich, Whites. Diversify for Fairer Robotics.	19	Robots may thrill but they can kill	12:42:47
are we not looking too much at computers as "competitor" to humans instead of seeing it as a partner for humanity to solve problems . A bit like the printing technology gave access to books and Knowledge to a much broader group (long time ago, but still ;-))	3	Anonymous	12:42:49
Would HRI in industrial settings maybe serve as a bridge towards commercialized service robots?	2	Anonymous	12:44:52
Are we approaching HRI correctly without including people from the social sciences and referring enough to the scholarship from the humanities on topics involving Robotics?	16	Anonymous	12:45:09

Debate 3 - *Robots designed for personal or household use have failed because of fundamental misunderstandings of HRI.*			
Question text	**Upvotes**	**User Name**	**Submission Time**
For Dr. Mataric: which actions would you advise lab directors to take to bridge the gap between academic research and public needs?	2	Anonymous	12:46:52
But is safety not too much oriented on the physical aspect (eg collision) and not so much on social-psycho aspects	2	Anonymous	12:47:07
On a side note for HRI research, even the HRI community is very small, we are pushing away people entering HRI (the ACM/IEEE HRI conference has only ~25% acceptance rate), especially those solving real-world problem that might not be considered novel but rather much-needed iterative improvement.	1	Anonymous	12:48:42
We are seeing a trend of shifting a leader role to robot in human-robot interaction. What are your views on relying on Robotic Intelligence instead of human intelligence	2	Anonymous	12:49:25
We're addressing a lot about social robotics / robots for home. but what about HRI in autonomous cars? Is lack of understanding in HRI why we are not seeing more AVs on public roads?	1	Anonymous	12:50:34
Is it failed because of pushing social human-like robots by increasing the expectations?	1	Arzu Guneysu Özgür	12:50:45
How do we know if we're genuinely solving an HRI problem with robotics and simply brute-forcing a robotic solution where a social solution would be better.	2	Anon	12:50:56
What are the societal implications of successful HRI? As in, if we had Rosie from the Jetsons in every home, why and how would that be a "success" for you?	1	Shreyas Kousik	12:51:50
Do engineers have the skillsets needed for really succeeding in engineering 'relatable' bots?	2	Randy	12:52:36
Why don't roboticists engage more with behavioural scientists?	1	Anonymous	12:54:29
where are the robots Jen is talking about? I don't know of any robot being helpful to elderly...	1	Anonymous	12:56:33
we don't know how to build HRI at the level of performance needed to have persons willing to interact with them. We should study the human side of HRI not only the robot's side.	1	Anonymous	13:00:02
How can social robots be designed to foster healthy human-robot interactions, when they rely on humans, who can't, to program/train them?	20	pefortin	13:04:05
What are the key robot skills required to move HRI forward?	1	Anonymous	13:04:57
Is the failure for household robots because of wrong target audience? People with disabilities or chronic disorders like arthritis etc are the ones that need really need help and will be willing to put up with a poor interface to get the actual difficult task done.	0	Shantanu Singh	13:06:47
If engineers have to rely on experts in HRI, how will robots embody such expertise?	0	Randy	13:08:46
Can you define a list of HRI Foundational questions for academics?	2	Ruzena Bajcsy	13:09:55
If you had to guess, what will the killer-app for consumer robotS look like? And when will it emerge?	34	Anonymous	13:14:35
Henrik don't you think that we miss more the knowledge about the "human" side than the technology of the "robotics" side of HRI?	1	Anonymous	13:17:11