



The Machine Learning zone was a themed zone supported by the University of Oxford. There were nine researchers taking part in the zone, all based at the University and working in different areas of Artificial Intelligence:

- Yee Whye Teh is looking at the scientific principles underlying machine learning, to help us understand why and how things work in AI
- Valerie Bradley is using data to develop and enhance methods of prediction
- Nick Hawes works on AI methods to allow robots to plan and execute different behaviours
- Mackenzie Graham is a researcher looking at relationships between technology and people
- Lin Shuyu is a PhD student investigating the underlying principles of AI technology
- Jun Zhao is researching the responsible use of AI with families
- Jacob Laygonie is a researcher using maths to describe the differences between shapes in rules that computers can understand
- Brian Zhang is using machine learning algorithms to help find patterns in genetic data
- Anna Gautier studies and designs multi-robot systems, to help robots interact with each other

Key figures from the Machine Learning Zone

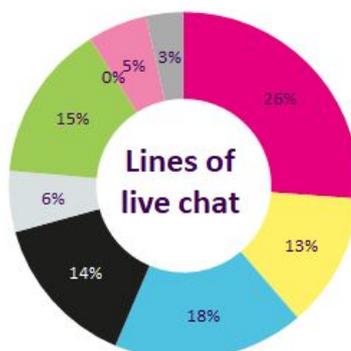
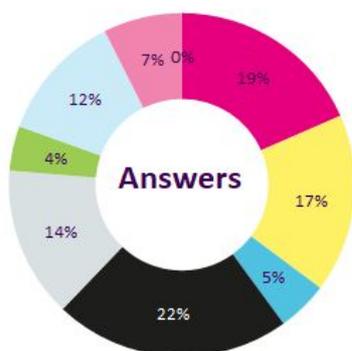
This zone saw an increase in students logged in and questions asked than the previous *I'm a Researcher* activity, Curiosity Carnival, in 2017.

There were a lower number of answers given by researchers, however, than in 2017.

Almost 30% of questions about science topics in ASK were specifically about AI and machine learning. Students also asked more questions about AI across other categories, such as careers and ethics. About 15% of all the questions in the zone related to AI and machine learning

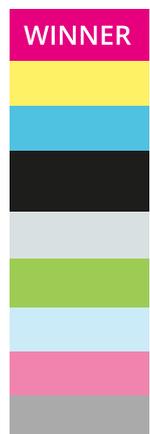
	MACHINE LEARNING ZONE	CURIOSITY CARNIVAL 2017
Schools	9	7
Students logged in	325	278
% of students active in ASK, CHAT, VOTE, Comments	83%	83%
Questions asked	267	214
Questions approved	166	133
Answers given	190	295
Comments	29	6
Votes	198	158
Live chats	17	14
Lines of live chat	5419	5178
Average lines per chat	319	370

Researcher activity



KEY

- Yee Whye Teh
- Valerie Bradley
- Nick Hawes
- Mackenzie Graham
- Lin Shuyu
- Jun Zhao
- Jacob Legonie
- Brian Zhang
- Anna Gautier



School activity

In total 9 schools across England took part in the Machine Learning Zone.

Number of Live Chats	School
2	South Wirral High School, Wirral (WP/U)
2	Hitchin Girls' School, Hitchin (U)
2	The Heathland School, Hounslow (WP)
1	Tong Leadership Academy, Bradford (WP)
1	Colton Hills Community School, Wolverhampton (WP/U)
2	St Ambrose Barlow RC High School, Manchester
1	Fitzharrys School, Abingdon
2	The Cooper School, Bicester (U)
1	Northfield School and Sports College, Billingham



We have found that schools that are more than 30 minutes travel time from their closest Higher Education Institution are less likely to receive visits and benefit from engagement activities. We give priority to underserved (U) and widening participation (WP) schools when allocating places. Find out more about our research at <https://about.imascientist.org.uk/2017/school-engagement-in-stem-enrichment-effect-of-school-location/>

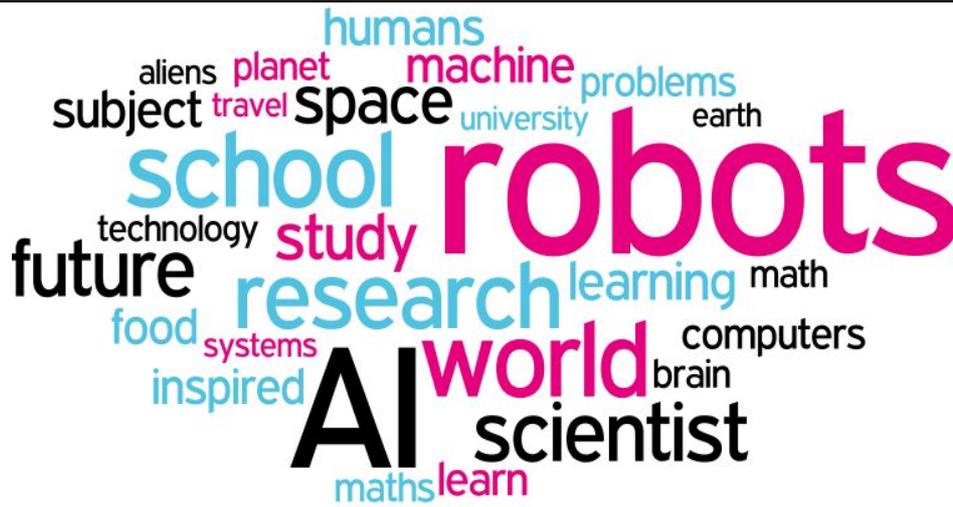
Popular topics

The zone was on topic and students related the areas of AI and machine learning to things in their own life, including virtual assistants such as Alexa. They asked about jobs and the future of work, wanting to know whether robots would be doing the roles that people do now, and if that meant people wouldn't have jobs in the future.

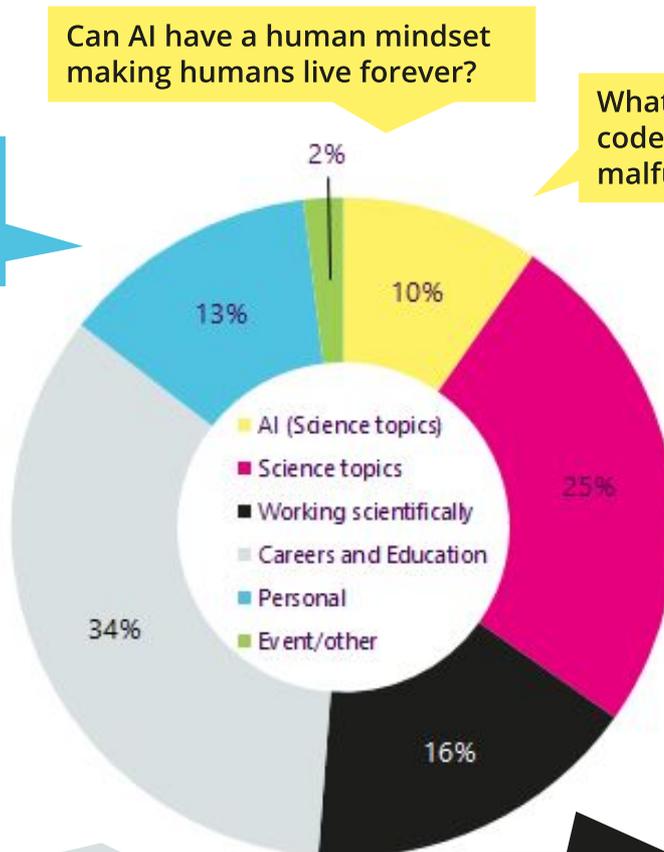
Students showed a concern for ethical and social issues such as who is responsible if something goes wrong, and whether people are, or will become, too reliant on technology and AI. They wanted to know whether AI and machine learning could be used to help people, and how to make sure it isn't used for harm.

Students also asked the researchers what it's like working or studying at Oxford University, if they would advise students to apply there and if they would ever work anywhere else.

Frequent words used in live chats by students and scientists



Question analysis



Can AI have a human mindset making humans live forever?

What happens if the code in a robot malfunctions?

How hard was it when you had a bone cancer?

What does 'quantum' mean?? I've seen it used all the time in articles, movies, ect. but I still don't know!

How did you find out that you could be a researcher?

How did life start? Like... there was non-living matter, how did it make us?

Would you advise Oxford for a university?

What programming language do you use to programme robots?

What subjects did you have to take at GCSE to get the qualifications you have today for your job?

Examples of good engagement

Researchers in the zone were proactive at asking for students opinions, and listening to their responses. This contributes to students' science capital, encouraging them to feel that their views are important and that science is "for them". In this example, Mackenzie prompted students to think critically about AI and the wider implications of machine learning:

"What will be the impact of your research?" – Student

"Hopefully, my research will help ensure that when AI becomes a bigger part of our normal lives, everyone can benefit from it. Do you think it is OK for facebook to monitor what you look at? What about sharing this data with other companies? Maybe this could be a good thing, but it could also be used for bad. That's the kind of questions I'm interested in." – Mackenzie, Researcher

"I think that facebook can access all information like what you look at etc because its a very important part of business" – Student

"Should facebook be able to do anything they want, as long as it is good for their business?" – Mackenzie, Researcher

"Of what they can access i think that as long as peoples security is taken into account basic information (not personal) it isn't that bad" – Student

"That sounds right to me. But what if accessing people's personal information was really useful? How much personal information should we need to share, if it could benefit society? This is a trickier question, I think" – Mackenzie, Researcher

"i think that accessing personal information is wrong without their permission but if they do consent then it would be able to benefit society " – Student

"I like that answer" – Mackenzie, Researcher

In this example, students and researchers share their interests outside of machine learning, which helps students to see researchers as "normal people":

"Have you heard of pescatarian?" – Student

"I have! I have lots of friends who are pescatarian, are you?" – Valerie, Researcher

"Yes" – Student

"Cool! You're helping the planet 😊" – Valerie, Researcher

"Great job! We are trying to eat less meat here" – Jun, Researcher

"I just feel bad for the animals i have been pesctarian for 2 months already. out of all fish which one do you like to eat the most? mine is scampi" – Student

"I don't love fish, but I do really like salmon" – Valerie, Researcher

"i've thought about being pescatarian. right now i'm a half-vegetarian haha, only cook vegetarian at home. but i was thinking maybe i'll compromise another direction and go full pescatarian!" – Brian, Researcher

"omg guys you have made my day and brian you should try and go pescartarian and thanks" – Student



Researcher winner: **Yee-Whye Teh**

Yee's plans for the prize money: *"I will use the prize money to encourage and enable the graduate students in my department to do outreach activities."*

Read Yee-Whye's [thank you message](#)

Student winner: **mjs11**

As the student winner, mjs11 will receive a certificate and a gift voucher.

Feedback

We're still collecting feedback from teachers, students and scientists but here are a few of the comments made about November's *I'm a Researcher*...

We are all really enjoying this chat! Thank you all for your time, it's been really good!
— Teacher

This was really interesting - thank you!
— Student

You were very helpful, I know more about my alexa now
— Student

It was a pleasure interacting with students and talking about what makes research and machine learning fun! Also makes me think about how to answer and think in non-jargon terms too. Definitely a learning experience!
— Yee-Whye, Researcher