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Science fans given look at world of computer vision

by **Alan Wilson**

SCIENCE FANS were given an insight into how the world looks when viewed through the eyes of a machine at Dundee Science Centre last night.

Seeing the World Through Machine Eyes — An insight into how the world looks when viewed through the eyes of a machine — showed how computer vision can aid defence systems, drive cars and detect potentially fatal conditions like diabetes.

Computer vision is a science that studies how computers extract information from an image or video to solve a particular task by analysing its content.

Adria Perez, from Dundee University's School of Computing, explained the conflicting abilities of computer vision at the latest Cafe Science Extra event.

He said: "I tried to show the limitations as well as the possibilities of computer vision in comparison with the human brain.

"I tried to let people see that it's good but it can look very bad when we compare it with our own brain because our brain is very, very good when it looks at images and analyses them."

Adria illustrated how one example of the technology — Trophy — works as a tank defence system which relies on cameras and computers to detect, follow and shoot down an incoming rocket, all in a fraction of a second and without any human intervention.

He added: "Similar technology is used to drive cars without a human driver. Volvo uses computer vision that shows when a pedestrian is crossing and the cars brake by themselves.

"Also when you go shopping in stores and they use tags which use computer vision to tell the size and the colour of the items.

"And some examples of medical use, the Fundus image, when it looks at the retina of the eye it can detect diabetes in a patient automatically."

But with all this existing technology, Adria also explained why it is possible that computers are not able to count the number of chairs in a room or distinguish between a male and a female.

"I tried to make it easy for people to understand what is a very complex topic," he said.

Dr Jon Urch, public engagement coordinator at Dundee University, and event organiser, said: "These are the fascinating, apparently contradictory, aspects to computer vision that Adria explored in his talk.

"For all their power and abilities, computers are still incapable of making distinctions that us humans take for granted, and this talk provided an extremely interesting insight into this world and the space where the human and machine intelligence differ or overlap."

Around 50 people, including students and members of the public, attended the event.

Cafe Science was launched in January 2008, and has attracted more than 2500 people since then.

Adria Perez explains the conflicting abilities of computer vision to a packed audience at the science centre.

The monthly events are informal discussions led by leading local researchers that allow members of the public the opportunity to learn more about the ground-breaking science happening at Dundee and Abertay universities and Dundee Science Centre.

The events are free and everyone is welcome.

There is no need to book but people going along are advised to arrive early to avoid disappointment.

The next Cafe Science event, entitled Magic Makers — recent developments in fingerprinting and beyond, takes place on Monday October 31, at 7pm at Chambers Cafe in South Tay Street.

More details of upcoming events can be found at cafesciencedundee.co.uk.