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Level of confidence: Open-source art memorial to the missing

Never a 100 per cent match (Image: Rafael Lozano-Hemmer)

Level of Confidence by Rafael Lozano-Hemmer, Baltan Laboratories, Eindhoven, The Netherlands, until 16 September

Green points and lines plot out your features, taking stock of what makes your face unique. The haunting expressions of young men stare back impassively, as a progress bar marks how far the software has got in matching your face with one of theirs.

This is *Level of Confidence* – a chilling and moving work by Mexican artist Rafael Lozano-Hemmer. Currently on show at Baltan Laboratories in Eindhoven, the Netherlands, this work is a response to the kidnapping of 43 student teachers in the city of Iguala, Mexico, in September last year.

The students had been protesting over teachers' wages and union rights before they were rounded up, taken into the hills and, it is believed, turned over to a local drugs cartel. Most people think they were killed and their bodies burned – drug-related atrocities are all too common in the Guerrero part of Mexico.

The monochrome collection of their faces is composed of photos taken from their national IDs. It reminds me of my class directory from university. They look so young, yet there are marks and discolorations on the images that evoke bullet holes and blood, hinting at the violence we can only speculate they endured.

Turn technology on its head

Most facial recognition draws on a vast database of potential matches, but *Level of Confidence* uses only the ID photos, coupled with three common algorithms – Eigen, Fischer and LBPH (Local Binary Pattern Histograms).

This technical arrangement is deliberate: Lozano-Hemmer wanted the matching process to take long enough that viewers would have chance to connect with the images and to see themselves in every one. By matching our faces to those of the students, Lozano-Hemmer aims to make us feel a kinship that often gets lost with today's global news information overload.

After 25 minutes, the artwork tells me it has found my match and I see an enigmatic boy staring back from an incalculable distance. I try three times and the answer is the same: a 74 per cent match with Jesus Jovany Rodriguez Tlatempa – a level of confidence so high it might be a

record, Lozano-Hemmer tells me.

The artwork is a memorial to these lost sons, brothers and fathers. The work is constantly striving for an impossible 100 per cent match, and this is a symbol of the heart-breaking and unending search for a complete answer or resolution to their disappearance. But it is also a way of turning the technology on its head, says Lozano-Hemmer.

Open source art

"Typically when we see the usage of face recognition we think of military and police looking for culprits. We are inverting that to look for the victims," he says. But with low-resolution photographs, failure would be likely regardless of the students' fate. So *Level of Confidence*, a facial recognition system designed to fail, is symbolic of the systemic failures that led to the kidnappings, and the complicity of the police, government and drug traffickers in a broken political and legal system.

The artwork can be downloaded by anyone to run anywhere. So far it has been exhibited in more than 15 institutions – and my living room. Because it's open source, other people can alter the code for their own projects in a process known as forking.

The work has been forked twice – by an Argentinian group to symbolically search for the thousands who went missing under the country's dictatorship, and by a Canadian group to search for the 1000-plus native American women who have disappeared in the past 5 years.

While there are limited edition hard copies of the software on sale, the proceeds of which go to the affected community, Lozano-Hemmer says that what defines the artwork's success is how people interact with it: "When the Argentinians use the piece to come to terms with their loss is when it becomes successful – not when it's owned by a collector or reviewed in an art magazine."

By **Kat Austen**