

Artificial intelligence to boost chances of IVF success

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Artificial intelligence technology is being used by an Aussie startup to help select the healthiest embryos for use in IVF treatments.

Life Whisperer is based in South Australia and uses a combination of computer vision, human analysis and machine learning techniques to

identify healthy embryos for implantation.

The non-invasive embryo selection technique applies key algorithms that recognise important information, including morphological features, to grade embryo quality.

The company is looking to identify a commercial partner to conduct the next validation phase of its technology.

Co-founder and Managing Director Dr Michelle Perugini said machine learning meant the system could efficiently study "tens of thousands" of retrospective cases and build a portfolio of information.

"We view this as an add-on service that every IVF clinic in the world could offer to their patients as part of the IVF process," she said.

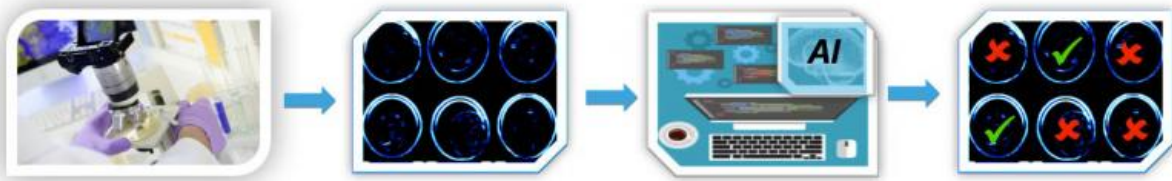
"We are able to use other features that a human eye can't discern using some learning-based AI features.

"If we have a set of [embryos](#) that are good, then using our algorithms we'll be able to learn what those features are and continue to improve the process further."

Life Whisperer allows embryologists to use ordinary equipment and conventional microscopes to capture images of embryo samples.

The information is then fed into a computer, which analyses how healthy the sample is.

Unlike other procedures that track development over time, Life Whisperer is able to look at the fine features of the embryo at the endpoint and determine its potential using set algorithms.



Other techniques include techniques such as The University of Adelaide's embryo texture and metabolism analysis using mathematical modelling.

The Life Whisperer's program uses a unique AI approach that can learn from previous data, does not need specialised hardware and is completely non-invasive.

Dr Perugini is also a co-founder of Presagen, a company that applies behavioural AI technology to automate complex human-centric tasks in businesses.

Her former company ISD Analytics was acquired by Ernst & Young (EY) in 2015 and was responsible for creating the award-winning predictive analytics product Simulait.

Using Simulait, EY was able to predict the behaviour of a population of consumers to more than 90 per cent accuracy.

"Our approach is non-invasive and doesn't change the normal IVF process, it's almost an add-on decisions support tool for embryologists,"

Dr Perugini said.

Co-founder and inventor of Life Whisperer's analysis technique, Dr Jonathan Hall, is a University of Adelaide physics PhD graduate.

Dr Hall conceived the Life Whisperer concept and entered the idea into the 2016 Australian eChallenge program run by the Entrepreneurship, Commercialization and Innovation Centre (ECIC) at the University of Adelaide. The team won both the best Medical Innovation and Research Commercialization awards.

"We feel for people who have been through the devastating emotions of unsuccessful IVF. We want to help families by deploying leading-edge technology, and we have the skills and drive to execute this well," he said.

Life Whisperer is searching for a large IVF clinic to form a commercial partnership with for its final validation testing.

It then aims to use the investment to build the online product that will facilitate the delivery of non-invasive IVF assistance within the clinic and scale the technology globally.

Provided by The Lead

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