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# Automated Embryo Selection Tool for IVF

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## Team



### **Dr Nicholas Knowlton**

Research Fellow in Molecular  
Medicine & Pathology / O&G

- Created and commercialised a breast cancer risk model
- Led the team that developed the VectraDA test for Rheumatoid Arthritis



### **Dr Lynsee Cree**

Senior Lecturer (Reproductive  
Biology, Department of  
Obstetrics and Gynaecology)

- Conducted extensive research work on markers related to embryo quality.

# Automated Embryo Selection Tool for IVF

## **Completely new architecture and training approach.**

Accurately ranks embryos within a patient's cohort.

Trained on more than 30,000 complete IVF cycles and 30M+ embryo images

## **Fully automated embryo selection tool.**

No manual labeling required.

Fully automated workflow

Time and cost efficient

## **Benefits.**

Improves clinics performance.

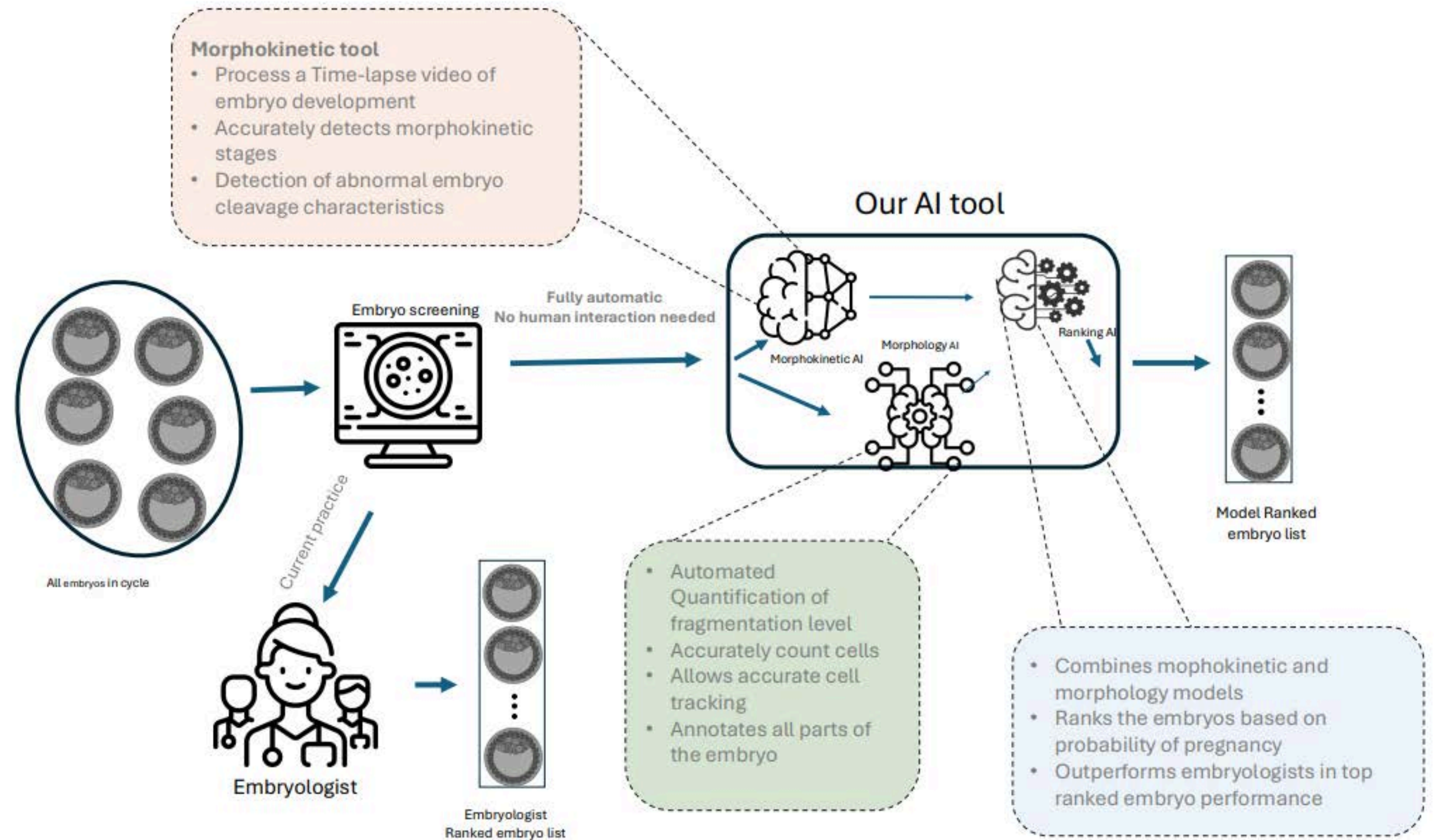
Increases embryologist's lab productivity

Decreases time to pregnancy

## **Use Cases.**

Decision support tool to choose the best embryos to transfer.

Help embryologists in hard choices.



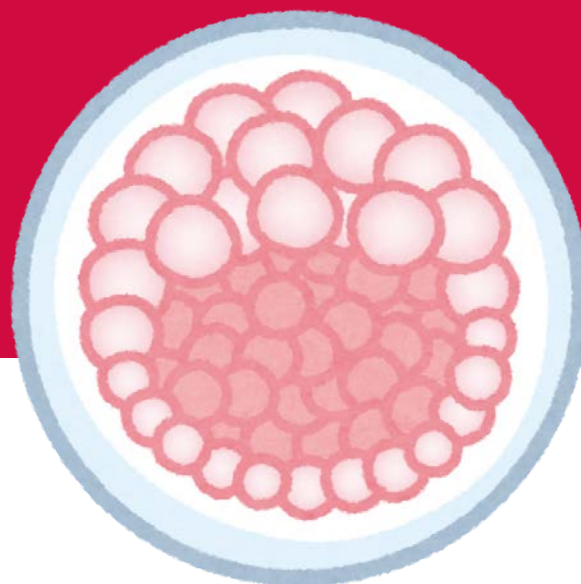
# System Overview



# Performance

## Morphokinetic AI

Our morphokinetic model outperforms SOTA by 18% on classification and incorporates more morphokinetic classes.



## Morphology AI

Our Morphology segmentation model annotates the **complete embryo**. Fragmentation levels are accurately quantified.



## Embryo Ranking AI

Our ranking model outperforms embryologists, changing the outcome of 35% of the cycles and **improving 78%** of them to achieve pregnancy in the first transfer.