





## **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 cycls 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.





#### Morphokinetic tool · Process a Time-lapse video of embryo development Accurately detects morphokinetic stages Detection of abnormal embryo Our Al tool cleavage characteristics Fully automatic Embryo screening No human interaction needed Morphology Al Morphokinetic Al Model Ranked embryo list Automated All embryos in cycle Quantification of fragmentation level · Accurately count cells · Combines mophokinetic and · Allows accurate cell morphology models tracking · Ranks the embryos based on · Annotates all parts of probability of pregnancy the embryo Outperforms embryologists in top Embryologist ranked embryo performance Embryologist Ranked embryo list

System Overview

# Performance

## Morphokinetic Al

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



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



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.





