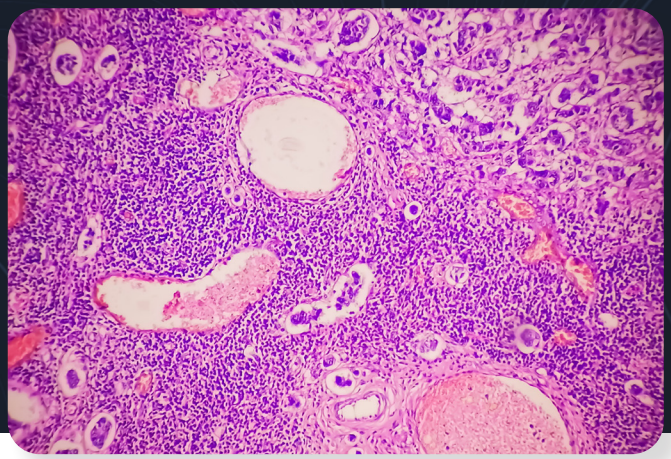
CASE STUDY

AI-enabled cell feature detection in breast cancer tissue

How Paige improved their model's F1 score from .6 to .83 with data annotations from Centaur Labs



Overview

Paige is a global leader in end-to-end digital pathology solutions and clinical AI applications, and was the first company to receive FDA approval for an AI product in digital pathology. Their newest product - the Paige Breast Suite - assists pathologists with efficiency and error reduction by identifying suspicious regions of interest.

Challenge

- Developing ML models to identify key cellular features within breast cancer tissue
- Unscalable annotation system - 4 staff pathologists doing annotation after hours, using prototyped internal tool; Produced 3-4 reads per case; high effort, low throughput
- Needed 20K+ images from pathology slides of breast tissue classified

Solution

- Classified if a cellular feature of interest was or was not present in 20K images
- Centaur Labs generated 20K annotations, at a rate of 4,000 annotations per week, with 10 qualified opinions per image
- 90% agreement with Gold Standard cases, exceeding the quality benchmark of 47%

Impact

- ✔ Improved model's F1 **score from .6 to .83** with data annotations provided by Centaur Labs
- ✔ **10 times faster** annotation, saving time for AI team and staff pathologists

Working with Centaur Labs is the best way to get thousands of pieces of data annotated in a day, rather than weeks. With Centaur Labs we have both an army of people doing high quality annotations, and annotating the data very quickly.

Paige

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