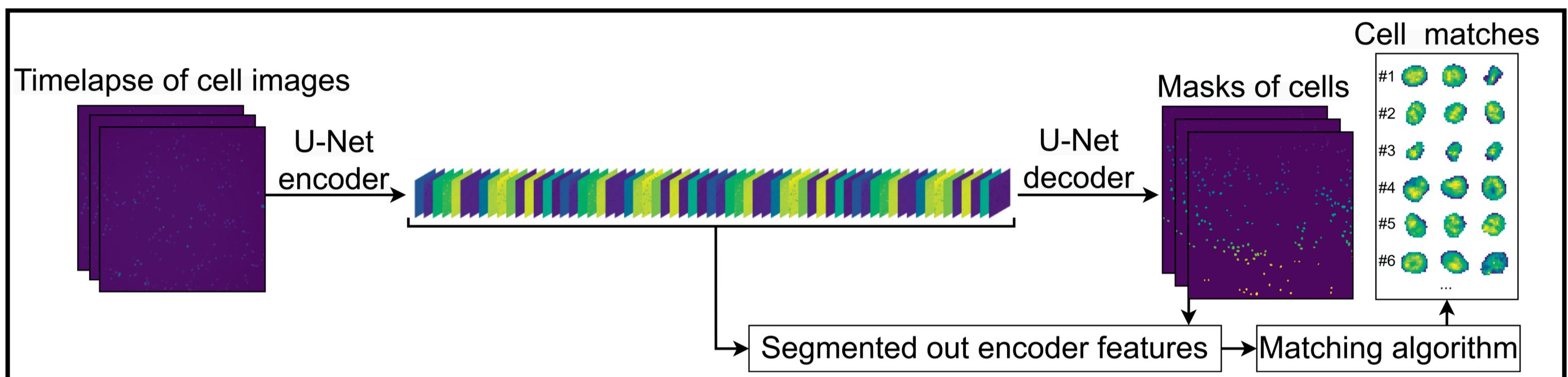


Replacing Damaging Markers with Machine Learning Intermediary Outputs



Background

- Biologists use fluorescent markers to highlight cell features under the microscope to temporally track changes. These markers can damage cells, resulting in inaccurate data.
- U-Net, a Machine Learning model architecture, segments cells in microscopy images, and in the process extracts the most descriptive details of each cell.
- Matching cells on different images using these descriptions could replace the need for fluorescent markers.

Objective: Match cells in time-lapse images with the encoder features and compare results with the fluorescent marker.

Results	Fluorescent marker	Encoder features
Matching accuracy	73%	98%

