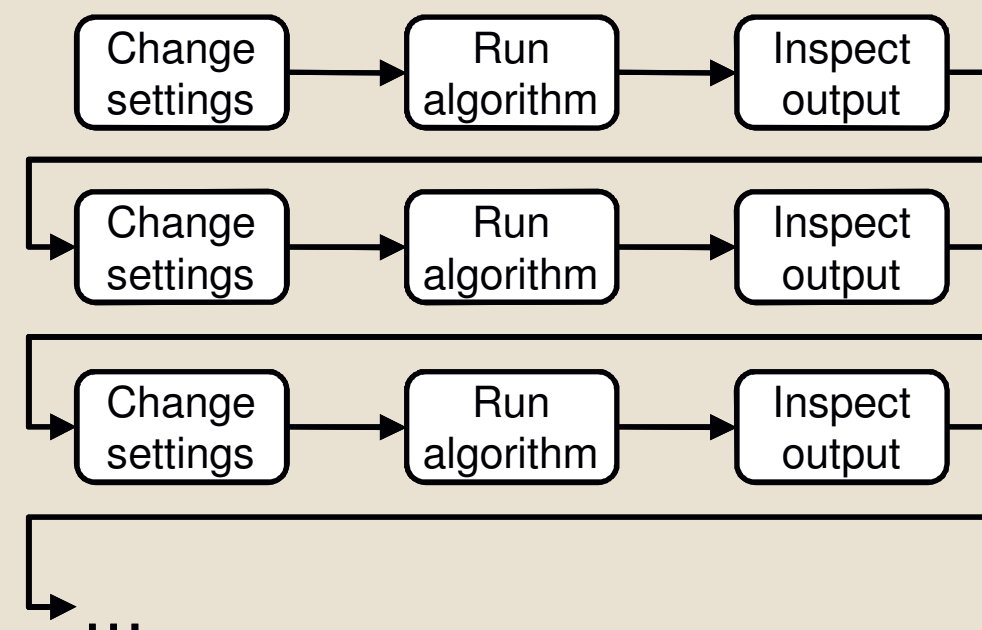


# Parameter visualization for biomedical image analysis

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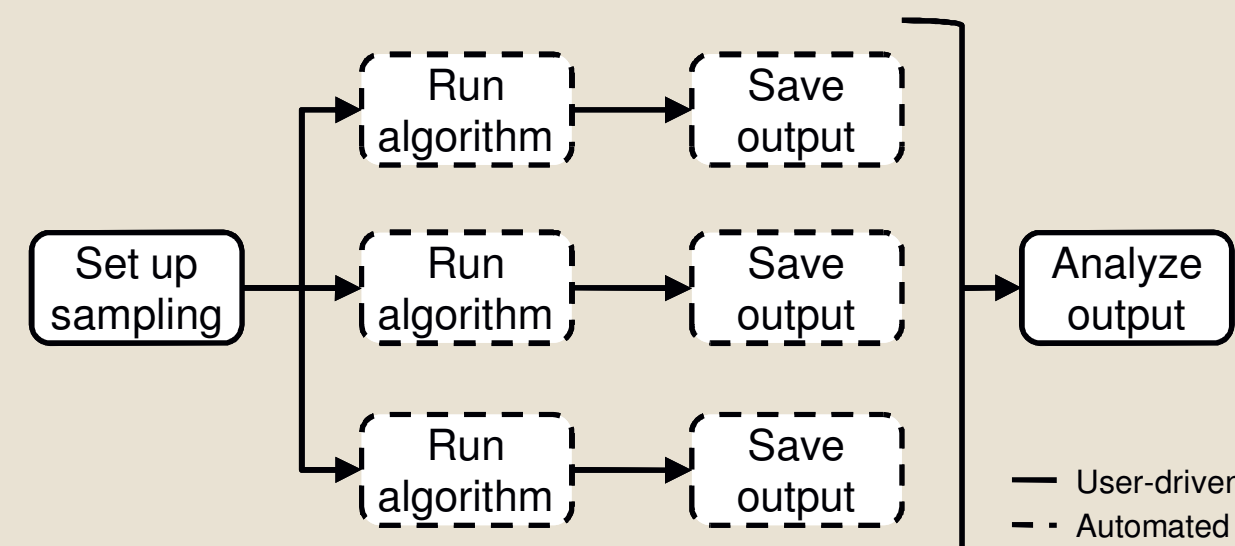
# Motivation

Image analysis algorithms are often highly parameterized. These require significant human input to optimize input parameter settings.



# Approach

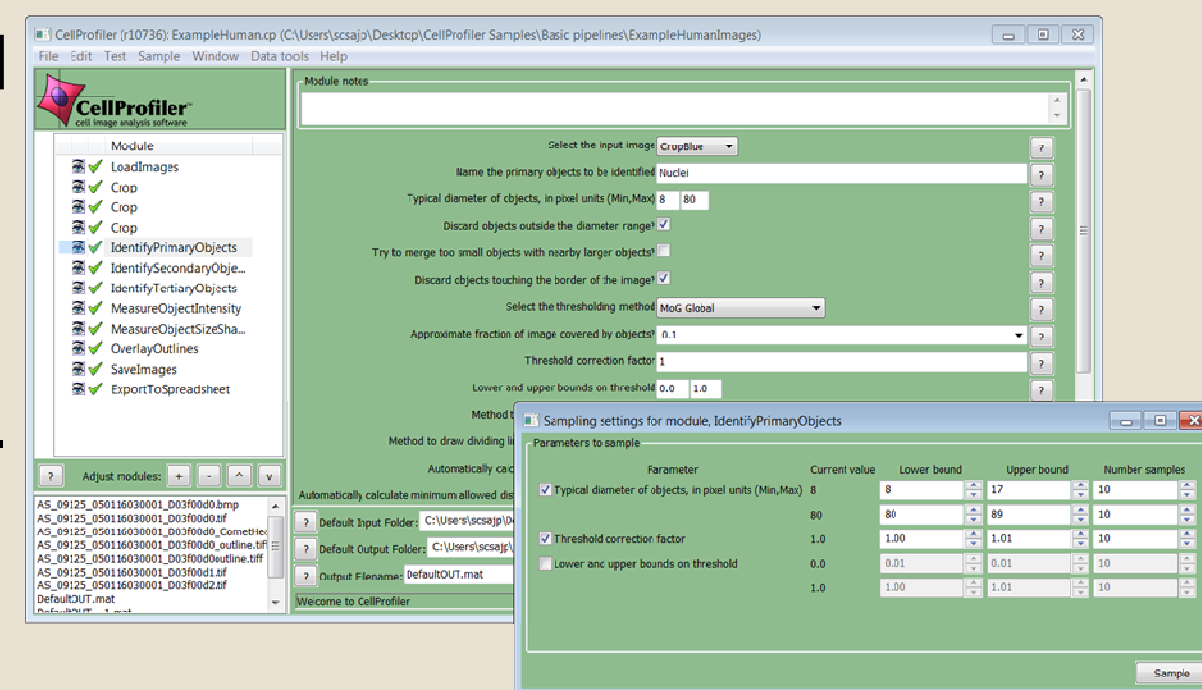
We propose a new approach based on parameter sampling and interactive visual exploration.



Users are only involved in the first step – to initialize sampling – and the last step – to visually analyze the output in real time.

# Sampling

We have developed a custom plug-in for *CellProfiler*\* – a popular image analysis framework. After users have specified which parameters to sample and how, the parameters, comput



\* [www.cellprofiler.org](http://www.cellprofiler.org)

# Visual analysis

Our main focus is visual interfaces for analyzing and exploring relationships between sampled input parameters and corresponding output images. We have developed *Paramorama* – an interactive visualization tool – to facilitate this.



**Overview.** Structured outline of parameters and their sampled values. Main user selection device.

**Refinement view.** Structured presentation of user-defined areas of interest with scaled image results.

**Reference image.** Image output is overlaid on a reference image for comparison.