

From Images to Knowledge with ImageJ & Friends

virtual conference

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hhmi | janelia
Conferences



ilastik: interactive machine learning for segmentation

Tutors: Anna Kreshuk (anna.kreshuk@embl.de)

Session 1: 2020-12-01 08:00 UTC – 2020-12-01 12:00 UTC

Session 2: 2020-12-02 15:00 UTC – 2020-12-02 19:00 UTC

Title

ilastik: interactive machine learning for segmentation

Abstract

ilastik is an easy-to-use interactive tool that brings machine-learning-based (bio)image analysis to end users without substantial computational expertise. It contains pre-defined workflows for image segmentation, object classification, counting and tracking. In this tutorial, we will focus on the segmentation problem and take a close look at the Pixel Classification, Autocontext and Neural Network workflows. We will train multiple classifiers together by interactively labeling the images, apply them in batch mode and connect ilastik with Fiji.

Tutors

Anna Kreshuk (anna.kreshuk@embl.de), Dominik Kutra (dominik.kutra@embl.de)

Requirements

A machine with at least 8GB of RAM (16 and more is better) and a mouse (not only touchpad). ilastik is available in binaries for Windows, MacOS and Linux. We will likely release a new version before the workshop, we'll send a link to the selected participants a few days ahead.

Outline

- Intro to ilastik and the underlying algorithms
- Pixel Classification workflow: how it works + walk through on provided data
- Pixel Classification workflow: play time with your own data, we are there to help!
- Autocontext: how it works + walk through on provided data
- Neural network workflow: installation quirks
- Neural network workflow: how it works + walk through on provided data
- Batch processing
- ilastik plugin in Fiji
- Other workflows of ilastik: quick overview and tips for where to go next