Electron Microscopy Image Segmentation using Nipype and OpenCV on an HPC

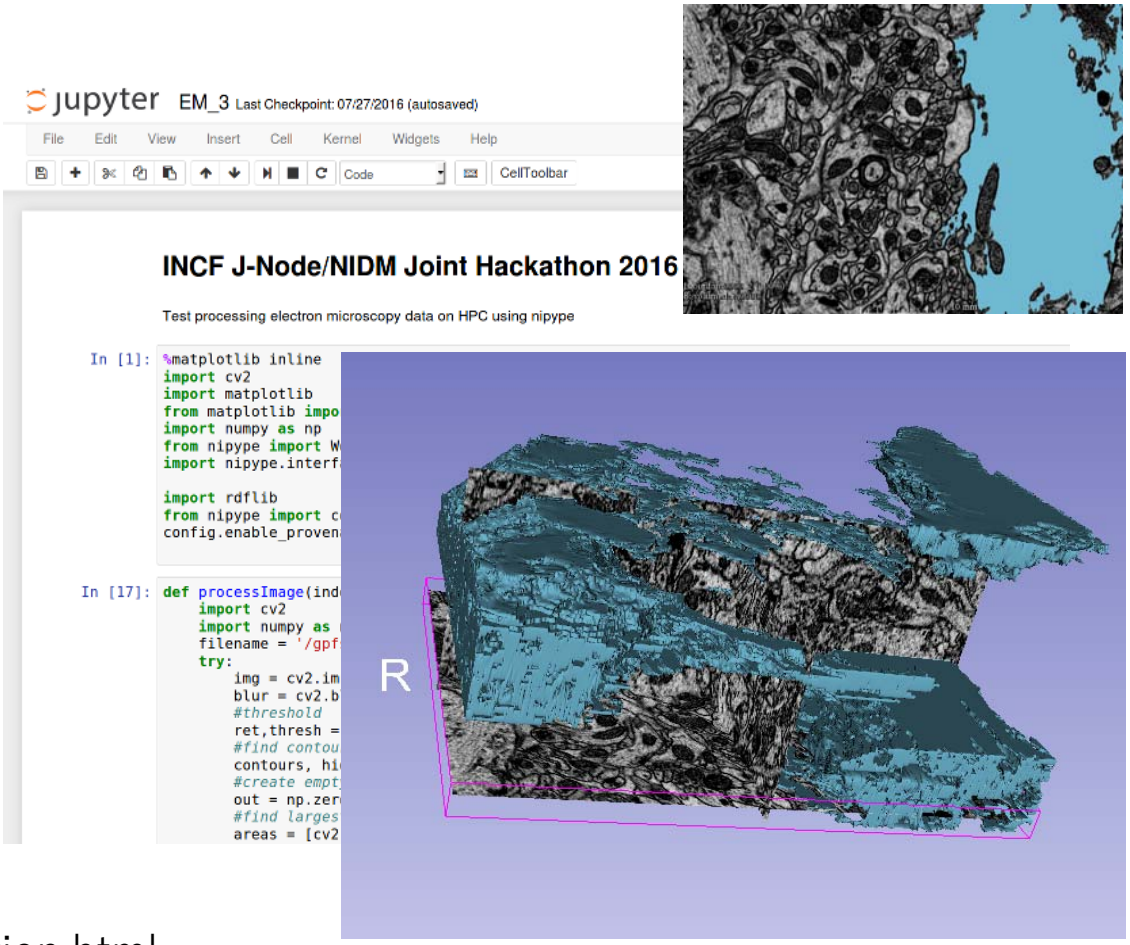
Torsten Bullmann, Alexander Woodward

Objective: Create electron microscopy image processing pipeline on the SAKI HPC at the Neuroinformatics Japan Center

Method: Jupyter Notebook using OpenCV and Nipype. Batch processing via SunGridEngine. Notebook running on HPC and interfaced via VDI virtual machine running Ubuntu Linux.

Result: Installation of Python libraries, OpenCV, Nipypye etc., via Conda. Setting up Jupter Notebook on the HPC and port forwarding to access from the VDI virtual machine.

Created example workflow for segmentation of an EM image stack on the SAKI server at Neurinformatics Japan.



References:

Conda: http://conda.pydata.org/docs/intro.html
Nipyype: http://nipype.readthedocs.io/en/latest/documentation.html