Neurite Analysis Tool – Quick Start Guide

This quick-start guide covers installing prerequisites, running the neurite analysis script, and building a standalone Windows executable.

1. Install Prerequisites

You will need Python 3.9 or newer installed on your Windows or Mac system, with the 'Add Python to PATH' option enabled during installation (Windows only). The following Python packages are required:

- opencv-python
- Pillow
- numpy
- pyinstaller (only for building an executable)

Install these packages in Command Prompt (Windows) or Terminal (Mac):

pip install opencv-python pillow numpy pyinstaller

2. Running the Neurite Analysis Script

- Download neurite_analysis_gui_v.6.6.py to a folder on your computer.
- Open Command Prompt (Windows) or Terminal (Mac) in that folder.
- Run: **python neurite_analysis_gui_v.6.6.py**
- The application window will open. Follow the on-screen options to load images, adjust ROI, run analysis, and export results.

3. Building a Standalone Windows Executable

- Ensure PyInstaller is installed (see prerequisites).
- In Command Prompt, navigate to the folder containing neurite_analysis_gui_v.6.6.py.
- Run the build script provided below, or directly run: **pyinstaller --onefile --name NeuriteAnalysis neurite_analysis_gui_v.6.6.py**
- After building, the standalone executable will be found in the 'dist' folder as NeuriteAnalysis.exe.

4. Usage Tips

- Adjust detection parameters to fine-tune neurite identification.
- Use the ROI adjustment tools to isolate the analysis area.
- Set 'Pixels per µm' before analysis for accurate measurements.
- Enable scale bar for contextual size information in overlay images.