

Manual for the End-User of TreeSeg GUI

Published Version – December 2025

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December 29, 2025

GitHub Repository: <https://github.com/timoteomsilva/treeseg-gui>

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This manual is intended for **end-users** who want to install, compile, and run the published version of TreeSeg GUI.

1 Project Description

TreeSeg GUI is a simple desktop application written in C++ that provides a graphical interface for the TreeSeg command-line tools (originally developed by Andrew Burt).

Key features:

- Menu to select TreeSeg programs (e.g., `downsample`, `findstems`, `segmentcrown`).
- Easy parameter entry using input fields and buttons.
- Built-in viewer for PCD files (using PCL and VTK).
- Real-time log of actions and program output.

The GUI runs the original TreeSeg executables externally (they must be compiled separately).

2 System Requirements

- **Operating System:** Linux (Ubuntu 20.04, 22.04 or 24.04 recommended).
- **Hardware:** Minimum 8 GB RAM (16 GB or more recommended for large point clouds).
- **Required Libraries:**
 - Point Cloud Library (PCL) ≥ 1.10
 - Qt5
 - VTK ≥ 7

3 Installing Dependencies

Open a terminal and run:

```
1 sudo apt update
2 sudo apt install libpcl-dev pcl-tools qt5-default libvtk7-dev
```

Listing 1: Installation of dependencies

This installs everything needed to compile and run the GUI.

4 Downloading and Building the Application

```

1 git clone https://github.com/timoteomsilva/treeseg-gui.git
2 cd treeseg-gui
3
4 mkdir build && cd build
5 cmake ..
6 make -j$(nproc)

```

Listing 2: Cloning and building

After compilation, the executable `treeseg_gui` will be created in the `build` folder.

5 Running the GUI

```

1 cd build
2 ./treeseg_gui

```

Listing 3: Running the application

The application window will appear, showing:

- Logos at the top.
- A menu to choose the TreeSeg tool.
- Input fields for parameters.
- A viewer area for PCD files.
- A log panel at the bottom.

Important prerequisite: The original TreeSeg executables (`treeseg`, `findstems`, etc.) must be compiled separately from <https://github.com/apburt/treeseg> and placed in your system PATH or in the same folder as `treeseg_gui`.

6 Basic Usage

1. Start the application (`./treeseg_gui`).
2. Select the desired TreeSeg tool from the drop-down menu.
3. Fill in or adjust the required parameters in the provided fields.
4. Load a PCD file (if needed) using the file browser button.
5. Click the execution button and watch the progress in the log area.

Results (processed point clouds, logs, etc.) will be saved according to the parameters you set.

7 Support

If you encounter problems or have questions:

- Open an **Issue** on the GitHub repository:
<https://github.com/timoteomsilva/treeseg-gui/issues>
- Contact: timoteomsilva (GitHub)

This manual reflects the state of the published version as of December 29, 2025. Enjoy using TreeSeg GUI!