Resource Summary Report

Generated by dkNET on Sep 23, 2026

ChronoRoot

RRID:SCR_021259
Type: Tool

Proper Citation

ChronoRoot (RRID:SCR_021259)

Resource Information

URL: https://github.com/ngaggion/ChronoRoot

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Description: System which combines 3D printed open hardware with deep segmentation networks for high temporal resolution phenotyping of plant roots in agarized medium. Deep learning based root extraction method which leverages the latest advances in convolutional neural networks for image segmentation, and incorporates temporal consistency into the root system architecture reconstruction process.

Resource Type: 2d time-series analysis software, data analysis software, data processing software, image processing software, software application, software resource, time-series analysis software

Keywords: 3D printed open hardware, deep segmentation networks, high temporal resolution phenotyping, plant roots, convolutional neural networks, image segmentation

Availability: Free, Available for download, Freely available

Resource Name: ChronoRoot

Resource ID: SCR_021259

License: GNU General Public License v3.0

Record Creation Time: 20220129T080354+0000

Record Last Update: 20260919T195451+0000

Ratings and Alerts

No rating or validation information has been found for ChronoRoot.

No alerts have been found for ChronoRoot.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 3 mentions in open access literature.

Listed below are recent publications. The full list is available at dkNET .

Gaggion N, et al. (2026) ChronoRoot 2.0: an open AI-powered platform for 2D temporal plant phenotyping. GigaScience, 15.

Barrios A, et al. (2025) The transcription factor NF-YA10 determines the area explored by Arabidopsis thaliana roots and directly regulates LAZY genes. The Plant journal : for cell and molecular biology, 121(5), e70016.

Gaggion N, et al. (2021) ChronoRoot: High-throughput phenotyping by deep segmentation networks reveals novel temporal parameters of plant root system architecture. GigaScience, 10(7).