LORENZO CERRONE

Scientific Software Engineer

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Zurich
LinkedIn
Github

EDUCATION

PhD - Physics / Computer Science

Heidelberg University

Jun 2018 - May 2023

Germany

Master's degree - Computational Physics

Heidelberg University

Sep 2015 - Apr 2018

Germany

Bachelor's degree - Physics

Università degli Studi di Roma "Tor Vergata"

Sep 2011 - Jun 2015

Italy

PUBLICATIONS

For a complete list of publications see my Google Scholar profile

- **Accurate and versatile 3D segmentation of plant tissues at cellular resolution**, *A Wolny, L. Cerrone, et al. (shared first authors)* Elife (2020).
- **CellTypeGraph: A New Geometric Computer Vision Benchmark**, *L. Cerrone et al.* CVPR (2022).
- **End-to-end learned random walker for seeded image segmentation**, *L. Cerrone et al.* CVPR (2019).

PROFILE

- Senior computer vision researcher with 5+ years of experience developing deep learning pipelines tailored to applications in life sciences.
- Enthusiastic scientifc software developer.
- Passionate about using my skills to bridge the gap between state-of-the-art AI and real-world applications.
- Author and contributor to numerous papers in top tier computer vision conferences and scientific journals.

WORK EXPERIENCE

Research Scientist

Heidelberg University (Germany)

Jun 2018 - Dec 2023

- Worked on a wide variety of computer vision and deep learning projects published in high-impact venues, like CVPR (the most highly ranked computer vision conference) and Elife, ammassing over 200 citations.
- Technologies - 2D/3D semantic and instance segmentation, generative AI, multi-object tracking, geometric deep learning, graph neural networks, transformers, and dataset acquisition.
- Scientific Software - Led the design and ongoing development of PlantSeg, a cell instance segmentation software for densely packed tissues. PlantSeg is extensively cited (160+ citations) and adopted in scientific research (1.5k+ downloads).
- Supervised interns, as well as bachelor and master's students. Ideating novel and engaging research projects, providing daily guidance and support to students, and adjusting project objectives in response to new evidence.
- IT - Substantially contributed to designing and administering computing infrastructure and purchasing and maintaining several HPC GPU servers.

SKILLS

Python

Python (10+years); PyTorch (5+ years); PyTorch Lighting; PyTorch Geometric; numpy; scipy; scikit-learn; scikit-image; Napari; vtk; numba; Ray; Dask

Software Developement

Python package deployment (pypi and conda); Large data formats (HDF5, OME-Zarr, Tiff); Other languages (Rust, C++, CUDA, Julia, Fortran); Continuous integration (CI), version control (Git), Docker

Soft Skills

Strong interdisciplinary communication skills; Friendly and inclusive; Problem solving; Analytical thinking; Scientific writing