PRESS RELEASE

Bridging Artificial Intelligence and Machine Learning with bioimage analysis

The AI4Life project launched today, marks an exciting chapter in the computational and life science research communities. The €4 million Horizon Europe funded project aims to create accessible, harmonized, and interoperable AI tools and methods for solving today's microscopy image analysis problems.

The gap

Machine learning (ML) has accelerated frontier research in the life sciences, but democratized access to such methods is not a given. Limited access to necessary hardware/software and expertise combined with insufficiently documented methods hinder life science researchers from harnessing the power of such tools. Furthermore, while modern Artificial Intelligence (AI)-based methods typically generalize well to unseen data, no standard exists for sharing and fine-tuning pretrained models between different analysis tools. Compounding the issue, existing user-facing platforms operate entirely independently, often failing to comply with FAIR[1] data and Open Science standards. Furthermore, the staggering pace of AI and ML development make it impossible for the non-specialist to stay up to date. Hence, urgent services and infrastructures to solve such problems are required to expand cutting edge life science research.

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[1] FAIR: Findable, Accessible, Interoperable, Reusable. https://doi.org/10.1038/sdata.2016.18

AI4Life

The bridge

The 10-partner consortium will build an open, accessible, community-driven repository of FAIR pre-trained AI models and develop services to deliver these models to life scientists, including those without substantial computational expertise. AI4Life will provide direct support and ample training activities to prepare life scientists for responsible use of AI methods. Additionally, AI4Life will drive community contributions of new models and interoperability between analysis tools. AI4Life will also facilitate Open calls and public Challenges aimed at providing state-of-the-art solutions to unsolved image analysis problems in life science research.

AI4Life brings together AI/ML researchers, developers of open-source image analysis tools, providers of European-scale storage and compute services, and European life science Research Infrastructures *-- all united behind the common goal to enable life scientists to benefit from the untapped, tremendous power of AI-based analysis methods.*

The core objectives

- Democratize availability of AI-based image analysis methods
- Establish standards for the submission, storage, and FAIR access of reference data, reference annotations (ground-truth), trained AI models, and trainable AI methods
- Simple model deployment, sharing and dissemination through a new developer-facing service
- Organize Open calls and Challenges for image analysis problems
- Empower common image analysis platforms with AI integration
- Organizing outreach and training events

The team

Our multidisciplinary team of experts in computational and life sciences as well as 3 European Research Infrastructures.
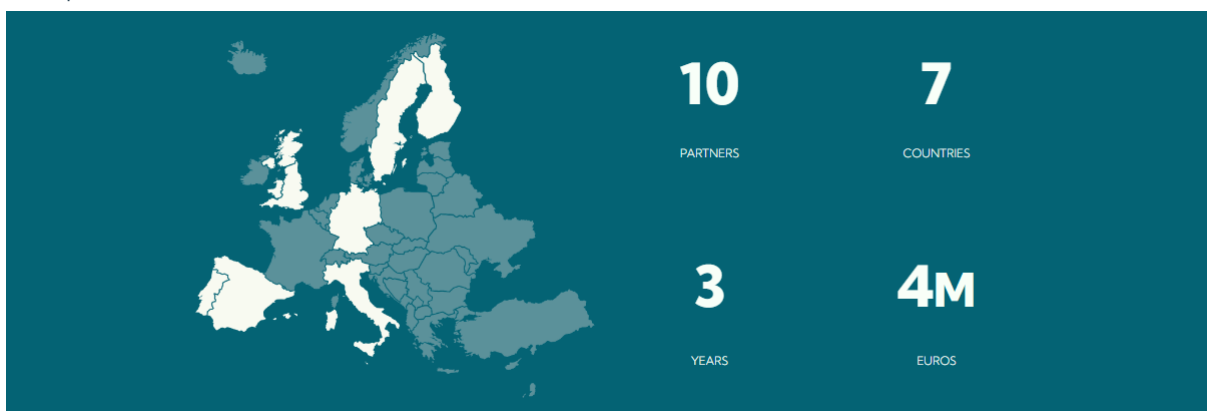
10 PARTNERS

7 COUNTRIES

3 YEARS

4M EUROS

Follow the work of AI4Life on twitter @AI4LifeTeam and check-out the AI4Life website for more information.