



Innovation Section

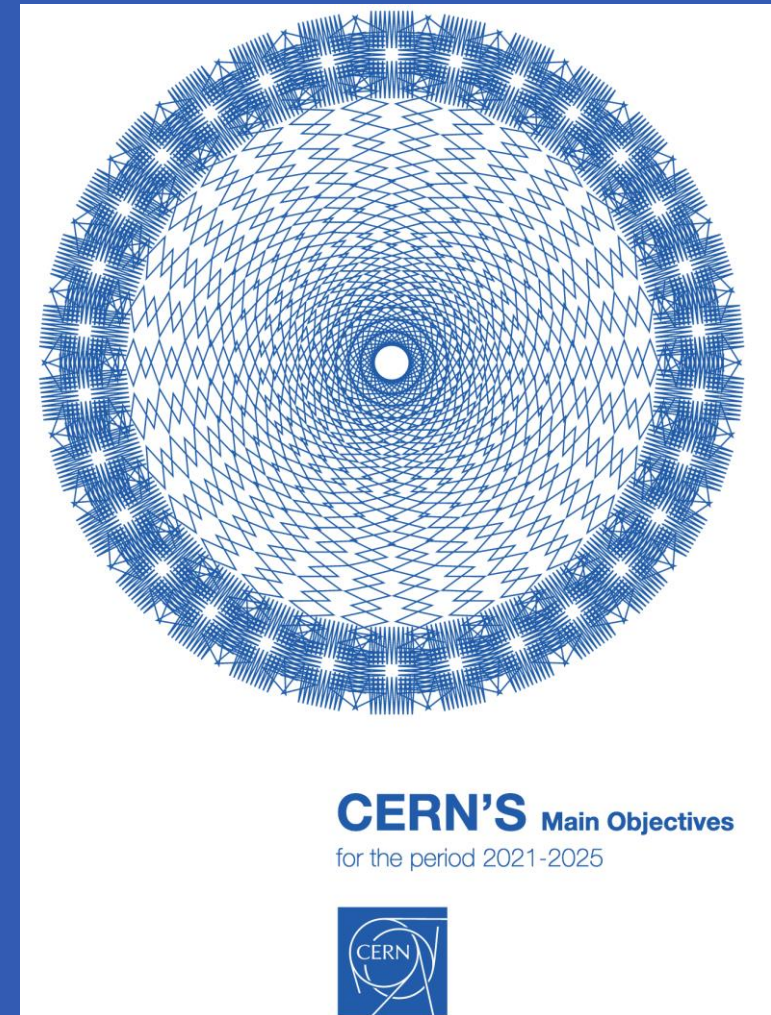
Healthcare Projects

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From CERN'S Main Objectives for the period 2021-2025

- One of the Management's top objectives for the next five-year period is to increase CERN's impact on society.
- The Management has chosen to focus primarily on the following three areas (These are in line with the priorities announced by the President of the European Commission.):
 - environment and sustainability
 - **health**
 - computing



List of multidisciplinary projects & Description



Healthcare: Parkinson's disease severity classification through wearables



Life-science: BioDynamo



Healthcare: Large-scale privacy-preserving data analysis platforms for medical research applications



Multidisciplinary: CERN Science for Open Data (CS4OD)

List of multidisciplinary projects & Description



Healthcare: Parkinson's disease severity classification through wearables



Openlab & Kuranos collaboration:

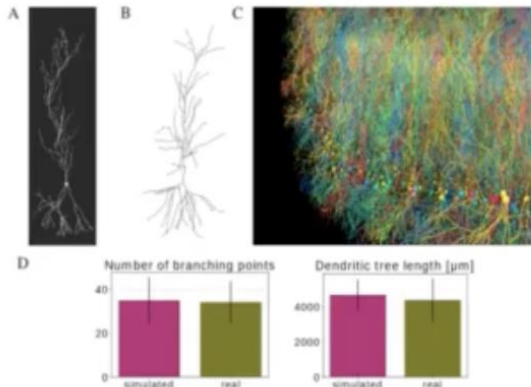
- Data management and storage from smartwatches
- ML and DL techniques for PD severity classification
- Visualization dashboard to assist caregivers in making decisions about medicaments and treatments

List of multidisciplinary projects & Description

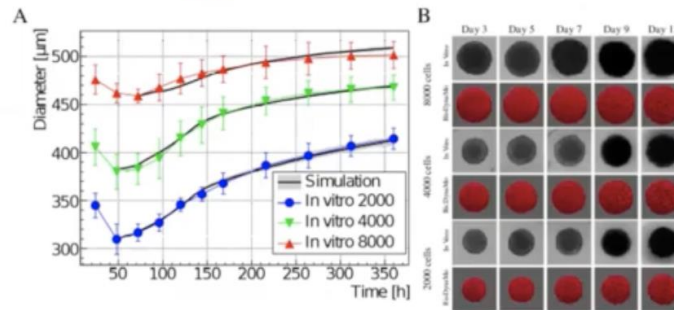


Life-science: BioDynamo

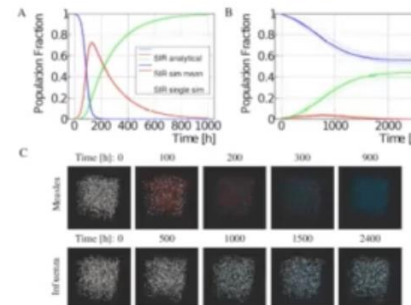
Neuroscience use case



Oncology use case



Epidemiology use case



KT & Openlab

- High-performance modular, agent-based platform
- create, run and visualise 3D biological simulations

List of multidisciplinary projects & Description

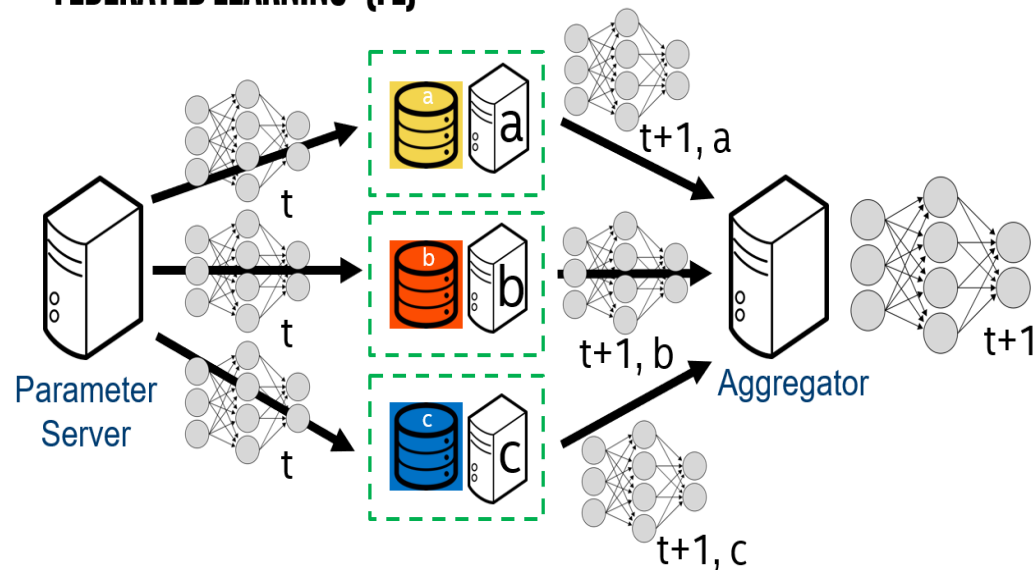


Healthcare: Large-scale privacy-preserving data analysis platforms for medical research applications.

Openlab & SEEIST (The South East European International Institute for Sustainable Technologies):

- building an intelligent system that would unify data of all oncology centres from Southeast Europe
- create a homogeneous data set that could be used in machine learning, in a privacy preserving environment, for selecting patients that would benefit from heavy ion therapy

FEDERATED LEARNING (FL)



List of multidisciplinary projects & Description

IT Department Initiative to implement a digital platform relying on CERN and open-sources services to:

- Foster data analysis and management toward FAIR principles
- Enhance multidisciplinary collaborations
- Facilitate open-science in research

Multidisciplinary: CERN Science for Open Data

HOME PROJECTS Healthconomics for excess of mortality N

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> Description

Datasets

<> Codes & Notebooks

Visualizations

Reproducibility

Workspace

1 2 3

Generate data Descriptive Statistics Modeling and forecasting

Pick data files from the project

Dataset Files

Upload a file or pick a file to run

Code Files

Input Parameters

Add New Parameter +

CLI Command to run: python -m <script-name>.py

Outputs Parameters

Add New Parameter +

BACK NEXT

CREATE PROJECT

Thank you

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