AI4 copernicus

Health

Meet the AI4Copernicus Projects
resulted from the Open Calls (by domain)

Project Name

Lobelia.Air

Vision: Contribute to zero-pollution cities.

Mission: To provide a monitoring and forecasting tool scalable to any EU city

Values: Providing a transparent methodology Based on scientific excellence.

Achievements:

- AI4Copernicus Open Call Winner #
- Contributor to the awarded Air/Aria/Aire science and arts project

Problem

Sparse infrastructure and unexploited potential of urban monitoring

Solution

Operational service 24/7, that bridges the gap between air quality point measurements and street-level resolution

AI Service(s)

- Neural Network used to assimilate heterogeneous data (EO, Satellite, traffic and population, meteo.)
- Learning classifier systems for low/mid-cost sensors calibration with high quality reference stations.
- 72h forecasts based on neural network

Innovative Aspects

- Hourly, street level resolution of PM and NO_2
- Healthy routes calculations
- ease scalability to cities with scarce reference stations
- extend forecast to 72 hours

Target Market(s)

- Institutional: City authorities
- Private: Providers of services for Buildings air quality

Competitors

High quality systems only viable in one city. Some commercial products are black boxes

Business Model

B2G: visualization platform and data
B2B: API access to air quality data and forecasts

Targets

- Expand the system to 15 medium-sized cities
- 10 signed agreements with B2B partners

Contact us! Jorge@lobelia.earth / Isadora@lobelia.earth www.lobelia.earth

WaltR NOEMI

Company: WaltR

Country: France

Industry: Environmental Monitoring

Vision: To be a leading space & ground environmental data providers, steering the “green-transformation”

Mission: To provide accurate, validated, near-real time, and continuous, homogenic environmental data.

Values: Excellence, Innovation, Responsibility

Achievements:

- AI4Copernicus Open Call Winner #

Problem

Lack of homogenous and “acceptable” emission data to support GHGs & Air pollutants reduction actions and policies

Solution

…NOEMI, an affordable gap filler between S5P/TROPOMI satellite data and local in-situ measurements

AI Service(s)

NRT automatic concentration levels and emission sources

high-resolution hourly NO2 predictive maps

Innovative Aspects

- Hourly maps of near-surface NO2/NO concentrations at 100m resolution.
- Regulatory grade data (“indicative measurement”)
- Affordability
- Increased cost-efficiency, automatization, and effectiveness

Target Market(s)

Outdoor AQ, Carbon, ESG data

Competitors (The Good, the Bad and the Ugly…)

- Institutional
- Corporate
- Open (innovative)

Business Model

- B2B…
- B2G

Targets

- Finalize development of MVP(s)
- Evolve MVP(s) to complete solutions
- Create a robust network
- Improve and automatize distribution channels
- Kickstart sales (2024), 100+ units/year (2025)

Contact us!

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Project Name

SemiLake

Company: RRTAI (RANIAROSE TECHNOLOGY)

Country: IRELAND

Industry: AI for Digital Health and CleanTech

Vision: To become a global leader in AI earth monitoring for clean water and health

Mission: To address a pressing need for timely inspecting harmful and toxic algal blooms in urban lakes through earth monitoring, whose economic cost is extremely high, especially in tourism and health sectors.

Values: Excellence, innovation aligned with SDGs

Achievements:
AI4Copernicus Open Call 5

Problem

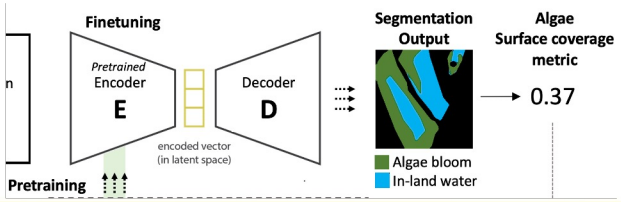
Current practice for lake algae inspection is to dispatch experts for manual inspection, which is costly and not real-time. Cutting-edge sensor-driven solutions need expensive hardware cost

Solution

Our semi-supervised representation learning-powered urban lakes and algae monitoring system that works with Sentinel 2 data and AI4Copernicus preprocessing service

AI Service(s)

Semi-supervised machine learning framework for algae blooms segmentation in urban lakes



Innovative Aspects

- Maximizing benefits from unlabeled dataset in reducing manual annotation and correction
- Instant digital access to lake algae blooms information
- Fully remote, real-time monitoring

Target Market(s)

CleanTech (In-land water quality management) & Digital Health in Europe (initially)

Competitors

Sensor-driven companies specializing in surface water harmful algal blooms monitoring incl. In-Situ, YSI. & Lake water inspection companies

Business Model

B2G (procurement for In-land lake governance bodies), B2B (API services) and B2C (Healthy urban lake recommender)

Targets

- Expand through 20 procurement contracts with lake governing bodies with API services by 2025
- Scale up with our self-care healthy life app with clean urban lake recommender by 2026

Contact us!

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AQQA terranea

Company: Terranea

Country: Germany

Industry: Space

Vision: Be a leading data provider for linked geospatial data and language-based user interaction

Mission: To leverage location-based information and advanced data analytics to enable effective environmental monitoring for the benefit of people and the planet.

Values: Excellence & Innovation

Achievements:

- AI4Copernicus 5^{th} Open Call Winner
- Delivering location-based services and consulting to many different clients (EC, ESA, EEA, …) for 11 years

Problem

Poor air quality is a global urban problem. There are many AQ data sets available, but they are difficult to identify and access.

Solution

Linking disparate data sets based on time, space and semantics.

AI Service(s)

Our AI service provides easy access to AQ data, enriched with semantics and related data sources, through a friendly map-based interface and a text-based query option.

Innovative Aspects

AQ-related Geo Knowledge Graph

Language-based User Interaction

Target Market(s)

Public Health Services and city administrations (as offer to their citizens)

Competitors

Different AQ start-ups offering their services on the market

Business Model

B2B (Enterprise Licensing Model)

Targets

Providing Copernicus-enriched environmental data to 10 major cities in the DACH region in the next 3 years.

Contact us!

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