Solving Challenges in Geospatial Information by Democratizing Data Access and Usability

Miriam González, Partnerships
UP42
Geospatial World Forum, 21st. October 2021
2019 Kincade Wildfire (California, USA)


Source: New York Times (July 2021)
“Between Jan. 1 and March 11 of this year, Mexico experienced its worst forest fires on record in the past decade”
Pulse News MX
Democratizing EO is an impact multiplier

Space4Good #FireAlerts at work! Thanks to our swift #satellite-based information product, near-real-time #alerts led to the #forest #fire being extinguished the same day in the #Borneo region of #Indonesia - A shining example of the power of #geospatial #remotesensing products for the prevention of deforestation!

Interested in fire alert systems or want to learn more? Visit our website or email us: https://bit.ly/308UDFc

#tech4good #space #sustainability

Like
We are too dependent on each other to ignore the global impacts of our social, economic and political interactions.

Space is the only vantage point that gives us constant global oversight, and AI is the only way we can understand at scale.
What is UP42?

A developer platform and marketplace to derive insights from geospatial data at scale

The team:
+65 people from +25 countries based in Berlin

Founded & 100% owned by:
AIRBUS

Incubated and mentored by:
BG Digital Ventures
What industry problems are holding us back?

1. **The data ecosystem is fragmented**
   - Suppliers focus on large customers
   - Commercial and contractual complexity is a barrier for many companies
   - Technical mechanisms for accessing the data vary greatly across providers

2. **It’s hard to build/distribute algorithms**
   - AI is the only way to take full advantage of increasing amount of EO data
   - Expensive to train and no easy way to commercially distribute algorithms
   - Leads to solution lock-in or heavy lifting on re-implementing proven algorithms

3. **It’s hard to scale efficiently**
   - Using UI-driven tools does not scale
   - Developer first and API centric approach is not yet fully mature
   - Building & maintaining your own scalable and efficient cloud environment is expensive
UP42 is a paradigm shift in the industry

Open Marketplace of Geospatial Data and Algorithms
- 150+ data sources and algorithms
- Simple, pay as you use pricing
- Revenue share or reseller model

Simple UI for Discovery and Rapid Prototyping
- Find and access data
- Build processing pipelines
- Run machine learning at scale
- No code required

Workflow Engine & Scalable Infrastructure
- Data and algorithm compatibility
- Scalable cloud infrastructure
- Bring your own data or algorithms

Powerful Platform APIs and SDKs
- API-driven platform
- Allows easy integration and scaling
- Open source Python SDK
- Open source integration examples
Case Study: Landslide in Rishi Ganga Valley

Who/What was impacted?

- Landslide from collapsing glacier triggered a flood on 7th Feb 2021
- Over 100 lives lost
- Destruction of hydroelectric power plants

Could the impact have been mitigated?

- What if EO could have given advanced warning?
- We used Sentinel-1 and Catalyst.Earth InSAR Ground Deformation to find out if there were any warning signs

Spot 6/7 imagery before and after the landslide

1. Find and select Sentinel-1 images for 22nd Jan and 3rd Feb
2. Running Catalyst.Earth InSAR Ground Deformation
3. Significant ground displacement is visible in weeks before the landslide
A fast growing ecosystem for AI-driven Earth Observation

50+ Marketplace suppliers

150+ Data sources and algorithms

32k+ Sign-ups
“Cooperation is the key”

“Not only focusing in production of information, also emphasize in the usage of information”

“Everyone is there, Everyone participate, Everyone takes value”

“Community of solidarity to reduce the digital divide”
GEOCHICAS &
Women in Geospatial

TAKE GEOSPATIAL WORLD FORUM

October 21th. 18:30
Brasserie Roezemoes
Hermitage 7, Zaandam
First drink on us!

A women* and non-binary event.
*Whoever perceives herself as a woman.

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Join our ecosystem.

Miriam González
Partnerships
miriam.gonzalez@up42.com