Geo-Enabling Our Education System

Krishanu Acharya
Co-Founder, Suhora, India
High Resolution

SAR & Optical

All Weather

Near Realtime

SUHORA
space analytics simplified
Suhora Vision and Mission

**Vision**

Use Technology to create a Sustainable Planet.

**Mission**

To become leader in 3M (Monitoring, Mapping & Managing) of Assets using Space Technology, AI, Big Data and Strategic Technologies.
Importance of Geospatial Technology in SDGs

Much more than a system for capturing and organizing positional data

Adaptation of Spatial problem-solving approaches in development sectors like

- Infrastructure
- Urban planning and governance
- Planning, decision making and monitoring
- Mapping of health, school and other facilities
- Vulnerability assessment surveys in disaster prone areas
- Climate Change
- Hydrology
- National Security
- Agriculture
- Mining
- Power
- Communication
Projected 33% increase in geospatial jobs (CAGR) in recent future

In India, it is expected to touch 10 lakh (1 million) jobs by 2025

(Strategies and Recommendations for National Geospatial and Earth Observation Industrial Development Policy)
Importance of Geospatial Education

**Current curriculum emphasize training on traditional techniques**
- Spatial analysis
- Modeling

**Recent trends in geospatial sectors demands on trending technologies**
- Cloud computing
- Machine Learning
- Statistical modeling
- Deep Learning logic
- IoT networking
- Big Data

**Trending technologies generate requirement of different combined skillset**
- Application programmers
- Analysts
- Data scientist
- Geo-web programmers
- Geo-AI experts
- SAR, LIDAR remote sensing experts
### Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>% of Professional Agreed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing skill gap in current geospatial workforce</td>
<td>80%</td>
</tr>
<tr>
<td>Workforce not equipped to technology like AI &amp; ML</td>
<td>52%</td>
</tr>
<tr>
<td>Companies not equipping with the digital age of AI and automation</td>
<td>44%</td>
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India & Developing Countries Context

INSTITUTIONAL CAPACITY

LEADERS
- United States: Rank 1
- United Kingdom: Rank 2
- Germany: Rank 3
- Canada: Rank 4
- Russia: Rank 5

BEGINNERS
- El Salvador: Rank 46
- Bangladesh: Rank 47
- Vietnam: Rank 48
- Kyrgyz Republic: Rank 49
- Zimbabwe: Rank 50

https://www.geospatialworld.net/blogs/comprehensive-geospatial-education/
Program on Space Application

Awareness of geospatial education arisen through the efforts of the Programme on Space Applications (PSA) of the United Nations Office for Outer Space Affairs (UNOOSA)
Challenges in geospatial education

➢ Limited educational institutes are offering technical courses on geospatial and space-based education

➢ Students are not getting proper in-hand training due to shortage of hard wares and soft wares.

➢ Course in not bridging the gap between academic curriculum and industrial objectives.

➢ Lack of reliable base data

➢ Awareness of open source data

➢ Awareness of open source software

➢ Lack of realistic training module
Recent trends in geospatial education in developed countries as per the current demand in geospatial sectors

• Big data analyst for data democratization
• Developer, processor and analyzers for IoT Sensors
• Popularizing cloud data hosting and processing
• AI/ML experts
• Expertise in wireless and web networks

Global Distribution of Artificial Intelligence Talent

(Shuai, 2019)
How to bridge the gap?

➢ Webinars
➢ Workshops and trainings
➢ Massive Online Open Courses
➢ Teacher's guides
➢ Fellowships
➢ Curriculum
➢ Partnership creation
Suhora’s Focus towards SDG

Committed to the Sustainable Development Goals and balancing Geospatial ecosystem
Role of Suhora in Creating a Geo-enabled Skillset

SUHORA's Initiative for Geospatial Education

- Networking
- Tools
- Training/Education
- Job creation
- Developing PR professional Group
- Data intensive science
- Publication
- Research
- Recommendation
What is different?

Institutes/Organizations can access commercial satellite data for training and research purposes for requested time frame.

Data Hub contains
High resolution SAR data (spatial/temporal)
High resolution optical data (spatial/temporal)
High terrain model
Role of Suhora in Creating a Geo-enabled Skillset

Training of GIS and Remote sensing open software

- QGIS
- GRASS
- SAGA
- Orfeo Toolbox
- GEOSERVER
- LEAFLET
- MultiSpce
- GvSIG
- Sentinel Toolbox
- GDAL
Role of Suhora in Creating a Geo-enabled Skillset

**Suhora toward developing advanced geospatial skillset**

- Supporting the development needs of students, institutions and other agencies in the area of geo-spatial courses
- A Open Data Hub for data intensive education
- Technical training videos – conceptual and realistic
- Enabling TOT activities in Kenya and Greater Africa.
How to Register

Please fill the registration form: https://forms.gle/jwCShxh8NK4kMUKWA

➢ Select the service you want to have
➢ Describe in few words
➢ Provide some mandatory inputs to contact you back

The registration link is active. We’ll revert with the next steps.
Proposed Goal and Target Area

Drive **awareness** and **engagement** with youth and other publics aspiring to learn and participate in **space-related activities** that are in the context of opportunities especially for **Africa and other developing countries** in the emerging new space economy.
Team Suhora thanks you..

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CTO and Co-Founder

Amit Kumar
COO and Co-Founder

Krishanu Acharya
CEO and Co-Founder