



Usqo Irwanto

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About



With extensive expertise in spatial data science, Geographic Information Systems (GIS), regional planning, environmental research, data science, and visualization, I am dedicated to advancing environmental sustainability and ensuring compliance with NDPE policies and the European Union Deforestation Regulation (EUDR). I have a strong commitment to continuous learning, staying updated with the latest advancements in remote sensing and GIS technologies. I am seeking opportunities to leverage my skills in driving impactful environmental solutions and supporting sustainable development initiatives.

Experience

Sustainability Specialist | PT. EarthLine | September 2024 – Present

1. EUDR Compliance Analysis: Developing and implementing methods that closely align with EUDR regulations to ensure palm oil plot data meets compliance through thorough spatial and thematic analysis.
2. Risk Mitigation: Creating data-driven strategies to address environmental and social risks in agribusiness practices.
3. Carbon Emission Analysis: Conducting land-cover-based carbon emission calculations using scientifically robust methodologies.
4. R&D in Cloud Computing: Utilizing Jupyter Notebook for large-scale data analysis and advancing innovative cloud-based solutions, especially for grievance and deforestation alert.
5. Monitoring and Grievance Systems: Designing effective tools for clients to monitor and resolve sustainability-related issues.
6. Team Collaboration: Working closely with the mapping team to validate field data and ensure compliance with international standards.

Geographic Information System Specialist | Apical Group | October 2023 – September 2024

1. **Spatial Screening for Suppliers:**
 - a. Conduct spatial screening for new and existing suppliers as needed.
 - b. Present comprehensive spatial data analysis results, including historical deforestation, historical burned areas, High Carbon Stock (HCS) areas, forest cover, peatland areas, Forest Area Function, Ecological Peat Function (FEG), Indicative Map of New Permit Moratorium (PIPPIB), and distances of mills to Forest Area Function, FEG, PIPPIB, and conservation areas within a 50 km buffer and within company concessions.
 - c. Perform overlay analysis of third-party suppliers from a company's potential supplier mill against Forest Area Function, FEG, and land use to ensure compliance with No Deforestation, No Peat, No Exploitation (NDPE) policies and European Union Deforestation Regulation (EUDR).
2. **Creating Action Reports for Suppliers:**
 - a. Generate monthly action reports to monitor deforestation within the concessions of Apical's suppliers.
 - b. Monitor deforestation data at the end of each month using RADD and GLAD data through Google Earth Engine.
 - c. Validate deforestation alerts with multispectral satellite imagery to confirm true deforestation occurrences.
 - d. Compile and submit action reports for processing by the Grievance and Supplier Engagement teams.
3. **Deforestation Alert Data Management and Validation:**



- a. Compile and validate deforestation alert data to ensure swift and accurate analysis.
- b. Utilize GLAD and RADD data extracted from relevant catalogs using Google Earth Engine.
- c. Validate whether extracted data indicates true forest areas or replanting of palm oil plantations or industrial tree plantations (HTI).
4. **Grievance Process Spatial Data Management:**
 - a. Manage spatial data in the grievance process and assist in validating grievances received by Apical.
 - b. Ensure accurate and reliable spatial data is available to support grievance investigations and resolutions.
5. **Spatial Data and Analysis for Group-Level Projects:**

Oversee all spatial data and analysis related to various group-level projects, including:

 - **Sustainable Living Village (SLV) Aceh Singkil:** Provide spatial data on deforestation, HCS, burned areas, land use, and land conversion.
 - **KMA Conservation Area:** Conduct carbon loss calculations, analyze fire-prone areas, and evaluate fire watchtower coverage.
 - **PT Hutan Alam Lestari:** Analyze potential flood areas and conduct other relevant spatial analyses.
6. **Compliance with European Union Deforestation Regulation (EUDR):**
 - a. Conduct all spatial analysis activities to ensure compliance with EUDR.
 - b. Verify that polygon areas match or closely resemble the legal stated areas.
 - c. Ensure that farmer locations are accurately within their land parcels or KUD polygons.
 - d. Confirm the absence of deforestation; if deforestation is detected, further verify the area to identify true deforestation.
 - e. Ensure that prospective mills for EU trade are outside Forest Area Functions and peatlands; if within these areas, verify the legality of forest area function release. If no legal release exists, the location cannot participate in EUDR.
 - f. Prepare necessary data for presentation on a specialized platform to Buyers.
7. **Spatial Analysis Model Development:**
 - a. Develop spatial analysis models for processing deforestation raster data into usable formats, performing network analysis to assess supplier distance and accessibility, and summarizing spatial data required by buyers (e.g., Upfield, Cussons, Unilever) such as forest area functions, peatlands, and deforestation into Gridcells.
 - b. Develop Python scripts for various uses including spatial data analysis, Traceability to Plantation (TTP), Supplier Foresight Analysis (SFA), and Mill Prioritisation Process (MPP) reports to enhance speed, clarity, and structure.
 - c. Create Python-based tools for Route and Closest Facility Analysis to find the nearest routes from mills to sellers and sellers to ports based on matching IDs and delivery destinations.
 - d. Develop Google Earth Engine (GEE) scripts to improve analysis of fire-prone areas by adding new variables, adjusting methods, reducing cloud cover interference, and building interactive Earth Engine Apps dashboards for daily monitoring.

Geographic Information System Analyst | LocatorLogic | February 2022 - October 2023

- a. Gain insight into the 2021 Susenas (National Socioeconomic Survey) data for business purposes.
- b. Compile indicators to measure Indonesia's SES by cleaning, compiling, summarizing, visualizing, and standardizing data from various sources.
- c. Expenditure classification from Susenas data to five class with Frequency Distribution method.
- d. Proportion Indonesian Purchasing Power Data into a geohash (purchasing power and its 20 categories).
- e. Purchasing Power classification to five class with Jenks Natural Breaks method.
- f. Generate text-based data classification model using BERT (Bidirectional Encoder Representations from Transformers) to autoclassify new POI data.
- g. Generate catchment area based on driving distance, driving time, and walking time measured from/to business sites.
- h. Business evaluation and analyzing for suitable for business expansion (such as Food and Beverage, Entertainment, and Health Clinic businesses) with Spatial Data Science as a support.
- i. Visualization of location and business analysis data into ArcGIS Dashboard.
- j. Confirm the quality of data that has been worked on and checked by the GIS and IT divisions to be submitted to the Project Manager.



- k. Organize, and distribute all technical related projects received by the Project Manager from the Client to each related division.
- l. Compile the data analysis scheme needed to be done by each related division.

Education

Bachelor of Science – Geography | Universitas Negeri padang | 2017 – 2021

Skill, and Ability

GIS and Technical Skills: ArcGIS Product (ArcGIS Pro, ArcMap, Drone2Map, Enterprise), QGIS, Esri CityEngine, TerrSet, Zonae Cogito, Agisoft Metashape, DroneDeploy, Google Earth Engine, ENVI, Python (Tensorflow, Geopandas, Pandas, PyTorch, Seaborn, matplotlib), PostgreSQL, BigQuery, Microsoft Office Product (Access, Excel, OneDrive, Outlook, PowerPoint, Visio, Word) Google Workspace (Docs, Slides, Sheets).

Sustainability Skills: Supplier Audits; Social Responsibility; Carbon; Oral Communication; Environmental, Social, and Governance (ESG); Grievance Mechanism, Traceability Management.

Reference

- **Salman Sahuri, Responsible Sourcing Coordinator APAC at ADM (ex-Assistant Manager at Apical Group).**
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 - **WhatsApp:** +62 822-8452-2945
- **Fitria Kurniawan, Sustainable Sourcing Manager - Direct Sourcing & Smallholder Farmer at Unilever (ex-Sustainability Manager at Apical Group).**
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