Osmar Yupanqui Carrasco

Forest Engineer and Remote Sensing & GIS Specialist
with experience in Machine Learning, Deep Learning,
programming and cloud computing.

Education

2013-2019 **BSc, Forest Sciences**; National Agrarian University (Lima, Peru)

Thesis title: Generation of a model for the detection of Selective Logging of trees in the region of Ucayali through Machine Learning

Experience

January 2023 - now: Remote Sensing and GIS Specialist - Conservacion Amazonica (ACCA)

- Preparation of reports focused on threats (deforestation, degradation, mining, selective logging, fires, logging roads, etc.) to the Peruvian forests, for the Monitoring of the Andean Amazon Project **MAAP**.
- Building, training, application of machine learning and deep learning models to automatically detect menaces, using very high, high and medium resolution optical imagery.
- Capacity building using conservation related softwares like **EarthRanger** and **CyberTracker**.
- Administration, management and protection of sensitive geospatial data.
- Elaboration of maps, according to the needs of the institution.
- Providing technical support to the **Radar Mining Monitoring Platform**.
- Developing cloud-based apps in Google Earth Engine, for the visualization and processing of geospatial data.

November 2022 - December 2022: Remote Sensing and GIS Teacher - Consultoria y Capacitacion en Recursos Hidricos y Ambiente (CIAMAT)

- Teaching the software ArcGIS Pro for 80 hours.

April 2021 - December 2022: Remote Sensing and GIS Assistant - Conservacion Amazonica (ACCA)

- Preparation of reports focused on threats (deforestation, degradation, mining, selective logging, fires, logging roads, etc.) to the Peruvian forests, for the Monitoring of the Andean Amazon Project **MAAP**.
- Carry out a bibliographical review of existing methodologies, databases and codes for the application of deep learning algorithms.
- Elaboration of maps, according to the needs of the institution.

September 2020 - March 2021: Remote Sensing and GIS Intern - Conservacion Amazonica (ACCA)

- Visual analysis of very high resolution imagery.

- Generating reports about threats to the peruvian forests.

October 2019 - August 2020: Technical Assistant - Sociedad Peruana de Ecodesarrollo (SPDE)

- Providing technical support for the project **Strenghtening the Competitiveness and Forest Governance in Peru**.
- Providing support for the preparation of policy briefs related to the forest governance in Peru.

September 2019 - August 2020: GIS Specialist - Sociedad Peruana de Ecodesarrollo (SPDE)

- Manual digitization of palm oil areas in the regions of Loreto, Ucayali, Huanuco and San Martin in Peru, for the years 2016-2020.
- Creation of anual maps of palm oil areas.
- Providing technical support for the project **Zero Deforestation - NWF**.

January 2020 - May 2020: Professional Practitioner - National Agrarian University (UNALM)

- Validating the Collection 2 of the **MapBiomas Amazonia** of the countries: Peru, Bolivia, Ecuador and Colombia.

July 2018 - August 2018: Support - National Agrarian University (UNALM)

- Providing support ingesting data to the **OpenForis** software, for the National Forestry and Wildlife Inventory.

Publications

Papers

- (Ongoing) Yupanqui, O. A machine learning ensemble approach to map selective logging in the Peruvian Amazon
- Yupanqui, O., Julca, J. R., & Valerio, E. (2021). Estimating the cultivated surface of Palm Oil, using visual interpretation of satellite images during the years 2016-2020 in Peru. Xilema, 31(1), 32-45. https://doi.org/10.21704/x.v31i1.1781.

Posters

- Yupanqui, O., Villa, L., Novoa, S., Becerra, M., Quispe, M. (2023). Selective logging detection with deep learning, cloud computing and high-resolution imagery in the Peruvian Amazon. Presented at the CLAG2023 on December 13. Tucson, Arizona.
- Sedano, M., Yupanqui, O., Novoa, S. (2023). Historical analysis of logging roads and connectivity roads in Madre de Dios, Peru. Presented at the CLAG2023 on December 13. Tucson, Arizona.
- Villa, L., Novoa, S., Yupanqui, O., Becerra, M. (2022). Selective Logging Detection with Deep Learning, Cloud Computing and High Resolution Imagery in the Peruvian Amazon. Presented at the AGU Fall Meeting on December 13. Chicago, Illinois.
- Villa, L., Yupanqui, O., Novoa, S. (2022). Selective logging detection with deep learning, cloud computing and high resolution imagery in the Peruvian Amazon. Presented at the 9th ForestSAT2022 on September 1. Berlin, Germany.

Datasets

- Yupanqui, O., Julca, J. R., & Valerio, E. (2023). Database of coverage and processing plants of palm oil in Peru (2016-2020). Harvard Dataverse V1. https://doi.org/10.7910/DVN/1TKNLB.

Skills

Remote Sensing Software

- ENVI
- SNAP
- GDAL
- ERDAS

GIS Software

- ArcGIS Desktop
- ArcGIS Pro
- QGIS
- PostGIS

Online Platforms

- Google Earth Engine
- Google Colab
- Github
- Microsoft Planetary

Programming Languages & Others

- Python
- Javascript
- HTML
- CSS

Data Science

- Machine Learning
- Deep Learning

Drones

- Drone Piloting
- Drone Imagery Processing

Languages

- Spanish
- English
- Portuguese

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