AMALIA RACHMAWATI SUKAMTO

GEOSPATIAL ANALYST | GIS, REMOTE SENSING & DATA ANALYSIS

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TECHNICAL SKILLS

GIS & Remote Sensing : ArcGIS Pro, ArcMap, QGIS, Google Earth Engine, ENVI
Programming & Data : Python (Rasterio, GeoPandas, NumPy, NetCDF4, Shapely, OpenCV), R/Rstudio, Google Colab, VS Code
Modelling & Statistics : InVEST (Coastal Blue Carbon), APSIM, Spatial Statistics (ESDA, PCA, GWR, Moran's I, LISA), UAV/drone processing (DEM, Orthomosaic, Point Cloud)

EXPERIENCE

GEOSPATIAL ANALYST — DIGITAL SUBAK PROJECT

(Oct 2026 – Present)

Project Based - Remote

- Co-developing Subak Hero, an educational game introducing students to Bali's Subak system through interactive water-management, irrigation, and upstream–downstream environmental scenarios.
- Designing geospatially informed landscapes, environmental learning missions, and cause–effect scenarios around water distribution, land cover, terrain, and agricultural systems.
- Integrating multi-source raster/vector data and QA workflows to support urban environmental, runoff, and flood-related spatial analysis.

GEOSPATIAL DATA & INFORMATION PROCESSING INTERN

(Nov 2025 - May 2026)

BPISDKP – Ministry of Marine Affairs and Fisheries (KKP), Indonesia

- Built three automated Python pipelines (Google Colab, Google Earth Engine, VS Code) for Sentinel-2 aquaculture pond detection, turning manual image processing into reusable workflows.
- Engineered an automated NOAA Coral Reef Watch pipeline computing Bleaching Alert Area and 90th-percentile metrics across site-specific boundaries with user-defined temporal outputs.
- Modeled coastal blue carbon stock for Bali using the InVEST Coastal Blue Carbon model to support spatial planning and decision-support analysis. Link

SPATIAL ANALYST (FREELANCE)

(Jan 2025 - Oct 2025)

Geogrids — Geospatial Services

- Delivered thematic maps, spatial analyses, orthomosaics, DEMs, and 3D point clouds across client projects using ArcGIS Pro, QGIS, Agisoft Metashape, and Google Earth Engine.
- Led selected client engagements, translating technical requirements into GIS deliverables and reusable workflows.

RESEARCH & TEACHING ASSISTANT

(2023 - 2025)

State University of Malang (Universitas Negeri Malang)

- Facilitated spatial statistics and remote sensing practicums for 298+ undergraduates, covering ESDA, PCA, GWR, Moran's I/LISA, NDVI, LST, classification, and accuracy assessment.
- Supported field and satellite-based research on climate-adaptive agriculture, including Sentinel-1 rice phenology monitoring across 30 sites and APSIM/PyAEZ modeling.

SELECTED PROJECTS (PORTFOLIO)

Mine Reclamation Monitor (Google Earth Engine) — Self-directed web app tracking post-mining vegetation recovery via Sentinel-2 NDVI across 768 mining concession polygons in Sulawesi, Nusa Tenggara, and Papua. Link

SAR Oil Spill Detection (Google Earth Engine) — Sentinel-1 SAR detection tool using Otsu thresholding and damping-ratio classification; validated against the 2018 Balikpapan Bay and 2019 Karawang spill incidents. Link

PUBLICATIONS & INTELLECTUAL PROPERTY

- **Sukamto, A.R. & Wirahayu, D.Y.A. (2025)**. Pemantauan limbah industri tahun 2020-2022 menggunakan Google Earth Engine di Perairan Pengambengan, Kabupaten Jembrana. Jurnal Geografi, Edukasi dan Lingkungan, 9(2), 226–234.
- **Sukamto, A.R. et al. (2024).** Analisis sebaran kesesuaian lahan tanaman padi tadah hujan dan ubi jalar di Jawa Timur berbasis sistem informasi geografis. GEOGRAPHY: Jurnal Kajian, Penelitian dan Pengembangan Pendidikan, 12(2), 650–660.
- **Harfian, B., Sukamto, A.R., et al. (2024)**. Identifikasi kesesuaian lahan sawah irigasi di Kecamatan Dampit Kabupaten Malang. GEOGRAPHY: Jurnal Kajian, Penelitian dan Pengembangan Pendidikan, 12(2), 661–670.
- **DJKI IP:** Cooling Effect Models of Nine Tropical Parks in East Java (No. 000975227, 2025); Modelling BBCH Stages Rice Phenology Using SAR Data (No. 001054149, 2025); Agricultural Land Polygon Map By-Name-By-Address, Trenggalek (No. 000605956, 2024).

EDUCATION, CERTIFICATION & AWARDS

B.Sc. in Geography — State University of Malang (Universitas Negeri Malang) **(2021 - 2025)**

GPA 3.76 / 4.00

BNSP Data Analyst Certification — Kemnaker Magang Bersertifikat Program (2026) | 1st Place, Thematic Map (Population Theme), GeoScience National Competition, Dept. of Geography UM (2024) | Incentive Winner, Student Creativity Program (PKM), Kemendikbudristek (2024) Link