



# DANY PUGUH LAKSONO

## RESEARCHER - LECTURER

### RESEARCH INTERESTS

- 3D Geospatial Modeling and Visualization,
- Fullstack Web GIS development
- Geospatial Data Science
- Geospatial Digital Twin
- Augmented Reality and Virtual Reality for Geospatial Visualization
- Development and Utilization of Free and Open Source GIS

### EDUCATIONAL HISTORY

#### Department of Geomatics Engineering, UGM, Indonesia

Master of Geomatics Engineering | Aug 2013 - Jan 2016

- GPA: 3.86 (4.0 Scale)
- Thesis titled "CloudSfM: 3D Reconstruction using Structure from Motion Webservice". Discussed the development of a SaaS web application based on Angular and NodeJS to perform SfM/MVS 3D Reconstruction in the cloud

#### Department of Geodetic Engineering, UGM, Indonesia

Bachelor of Geodetic Engineering | Aug 2007 - Aug 2011

- GPA: 3.56 (4.0 Scale)
- Thesis titled (in Indonesian) "3D Visualization of Lahar Flood Disaster in Code River, Yogyakarta". Discussed about hydrological flood modeling and 3D GIS visualization of flood in Yogyakarta area post-Merapi Eruption in 2010

### WORK EXPERIENCES

#### Lecturer

Department of Geodetic Engineering | May 2017 - present

- Teach courses (related to GIS, Photogrammetry and Remote Sensing), conduct research and community-services
- Member of Geoinformatics and Geospatial Information Infrastructure Laboratory and Center for Spatial Data Infrastructure Development

#### Teaching Assistant

Department of Geodetic Engineering | Dec 2013 - May 2017

- Assisting lecturers on practices and trainings
- Develop modules and teaching materials
- Field Coordinator on data acquisition and analysis projects

### SELECTED PUBLICATIONS

- Aditya, Trias, **Laksono, Dany**, Susanta, Febrian F., Istarno, I., Diyono, D., Ariyanto, Didik (2020). *Visualization of 3D Survey Data for Strata Titles*. ISPRS International Journal of Geo-Information, 9(5), 310.
- **Laksono, Dany**, Aditya, Trias (2019). *Utilizing A Game Engine for Interactive 3D Topographic Data Visualization*. ISPRS International Journal of Geo-Information, MDPI Gaming and Geospatial Information
- Aditya, Trias, **Laksono, Dany**, Izzahuddin, Nur (2019). *Crowdsourced Hotspot Validation and Data Visualization for Location-Based Haze Mitigation*. Journal of Location Based Services
- **Laksono, Dany** (2018). *Testing Spatial Data Deliverance in SQL and NoSQL Database Using NodeJS Fullstack Web App*, 4th International Conference on Science and Technology (ICST), Yogyakarta, Indonesia
- Julzarika, Atriyon; **Laksono, Dany**; Subehi, Luki; Dewi, Esthi Kurnia; Kayat; Sofiyuddin, Hanhan A. (2018) *Comprehensive integration system of saltwater environment on Rote Island using a multidisciplinary approach*. Journal of Degraded and Mining Lands Management, Vol VI-1, p. 1553-1567

### REACH ME AT:

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### SKILLS SUMMARY

- 📖 Fullstack WebGIS Development: Django and NodeJS (backend), Angular, OpenLayers, LeafletJS (frontend), Ionic (Hybrid App)
- 📖 Free and OpenSource GIS Software and Libraries (e.g. QGIS)
- 📖 Geospatial Data Science Machine Learning & Deep Learning with Python
- 📖 Geospatial Information Infrastructure Development: Geonode, Geonetwork, TerriaMap, Mapstore
- 📖 Game Engine for Geospatial Visualization (Augmented and Virtual Reality) with Unity and UnrealEngine
- 📖 Open Source Remote Sensing Software: Google Earth Engine & Python Libs
- 📖 OpenSource 3D Reconstruction: WebODM, OpenMVG, MVS-T

### LANGUAGE PROFICIENCY

English (TOEFL Score: 617)

### COURSES TAUGHT

- Web-based Geographic Information System
- Computer Graphics
- Digital Image Processing
- Photogrammetry I and II
- Remote Sensing
- Computer Programming

## BOOKS/TUTORIALS

- **Building Footprint Extraction from Historical Map.** Department of Geodetic Engineering, UGM. (2021).  
<https://github.com/danylaksono/historical-map-extraction>
- **Geospatial Data Science Crash Course.** Department of Geodetic Engineering, UGM. (2021).  
<https://github.com/danylaksono/gds-crashcourse>
- **OpenCV for Digital Image Processing.** Department of Geodetic Engineering, UGM (2020).  
<https://github.com/danylaksono/OpenCV-PCD>
- **Free and Open-Source GIS (FOSS-GIS) Enterprise.** Indonesia Ministry of Public Works.  
<https://www.danylaksono.com/panduan-fossgis/>
- **Introductory ArcGIS Notebook.** Indonesia Ministry of Public Works.  
<https://www.danylaksono.com/docs/arcgis-notebook/>
- **Photogrammetry II Course Guide.** Department of Geodetic Engineering, UGM (Published Internally)
- **QGIS and InaSAFE Training Material (beginner, intermediate and advanced).** Australia-Indonesia Facility for Disaster Reduction (AIFDR)

## COMMUNITY SERVICES

- **WebGIS and Eco-tourism Master Plan, Desa Karangtengah, Imogiri, Bantul, Yogyakarta** (2020). Develop a Village WebGIS based on UAV orthophoto data for asset management and eco-tourism mapping
- **Collaborative Mapping and Development of 3D Map of Desa Sinduadi, Mlati, Sleman** (2019). Build WebGIS for collaborative mapping based on aerial photogrammetry and interactive 3D map of Sinduadi Village
- **Development of Village Information System in Desa Segoroyoso Kecamatan Pleret Kabupaten Bantul, Yogyakarta** (2017). Develop a WebGIS for Village asset management and detailed mapping of Segoroyoso Village, Yogyakarta
- **Scenario Development Training in 6 Provinces of Republic of Indonesia** (2013). Deliver training materials for local disaster management agencies (BPBD) in disaster-prone areas in Indonesia

## SOFTWARE DEVELOPMENTS

- **Starling.** Fullstack WebGIS. Angular, ExpressJS, OpenLayers. Used e.g. in Sitaru (<http://geoportal.klatenkab.go.id/sitaru/>)
- **Game of Peat.** Android AR Location-based Game. Unity3D
- **3D Cadastre Prototype.** Web Portal for 3D Cadaster Data. Cesium and TerriaMap
- **Geopark4Rote.** ArcGIS Story Map and WebApp
- **CloudSfM.** SaaS 3D Reconstruction. NodeJS, AngularJS, OpenMVG, MVS-T, FSSR
- **UGM in 3D.** Interactive 3D web. Unity and Mapbox
- **Hosting Spatial ESDM Geoport.** Geonode & Geonetwork Geoport
- **InaSmartSea.** Android App for Fisherman. Ionic and OpenLayers

## SELECTED PROJECTS

- **3D Cadaster Pilot Project on Jakarta Mass-Rapid Transit (MRT) Stations.** Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) (2020). *Field Supervisor and Software Developer*
- **Review on National Spatial Data Infrastructure** Geospatial Information Agency (BIG) (2020). *Consultant*
- **Review of Validation method and Data Security on PetaKita App.** Geospatial Information Agency (2019). *Consultant*
- **Development of Spatial Planning Information System (SIMTARU) of Klaten Regency.** Office of Spatial Planning and public works of Klaten Regency (2019). *Lead Developer*
- **Development of Medium-Term Development Plan (RPJM) 2020-2024** Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) (2019). *Project Assistant*
- **Spatial Data Infrastructure Roadmap for North Kalimantan Province.** North Kalimantan Development Planning Agency (2018). *Consultant*
- **Crowdsourcing Peat Fire in Pulau Padang, Riau** (2017). *Lead Developer*
- **Boundary Delineation and Delimitation in Ijen Crater between Banyuwangi and Bondowoso Regencies.** East Java Province Local Government (2016). *GIS Analyst*
- **Ina-SmartSea: Android App for Regional Sea Planning Information System for Fishermans.** Directorate of Marine, Coastal Region and Small Islands, Ministry of Maritime Affairs and Fisheries (2015). *App Developer*

## CONFERENCE PRESENTATION

- **Geomatics and Geospatial Technologies (GGT) 2019.** Kuala Lumpur, Malaysia (*Poster Presentation*)
- **Geospatial Information Infrastructure Symposium (SIIG) 2019,** UGM Yogyakarta (*Keynote Speaker*)
- **International Conference on Science and Technology (ICST 2018).** UGM Yogyakarta (*Paper Presentation*)
- **International Conference on Information and Technology (ICIT 2017),** NTU, Singapore. (*Conference Attendee, co-author*)
- **National Seminar on Applied Technology 2017,** Universitas Gadjah Mada Vocational School. Yogyakarta (*Paper Presentation*)
- **National Conference on Cartography 2016,** Indonesian Association of Cartography (AKI). Yogyakarta (*Paper Presentation*)
- **Annual Scientific Forum, Indonesian Surveyor Association (FIT-ISI) 2015.** Malang (*Conference Attendee, co-author*)
- **National Seminar on Applied Technology 2015,** Universitas Gadjah Mada Vocational School (*Paper Presentation*)
- **DAAD Summer School on Water Resource Management 2012.** Berlin, Germany (*Participant/Presenter*)