

Yulia Nur Annisa Nugroho

M: +1-510-867-7224 | ynyulianugroho@gmail.com | San Francisco, CA | <https://www.linkedin.com/in/yulianugroho/>
Portfolio: <https://julesnugroho.wixsite.com/mysite>

Education

Master of Science in Geosystem Engineering University of California, Berkeley

Berkeley, California
May 2025

Focused on 3D geospatial data acquisition, LiDAR and photogrammetry processing, real-time sensing integration, campus-scale digital twin development, and advanced computational modeling for infrastructure analysis and simulation.

Bachelor of Science in Geological Engineering Bandung Institute of Technology

Bandung, Indonesia
October 2015

Thesis: "Geology and Static Reservoir Modeling in Q Field Lower-Deep Zone, Kutai Basin, East Kalimantan"

Professional Experience

GIS Engineer UC Berkeley

Berkeley, California
September 2025 - now

- Develop campus-scale 3D infrastructure and digital twin environments by integrating LiDAR, photogrammetry, utility networks, and distributed sensing into interactive geospatial workflows using ArcGIS, Unreal Engine, Blender, and advanced 3D modeling pipelines for infrastructure visualization and analysis.
- Performed 3D spatial analysis, feature extraction, surface modeling, and satellite-based remote sensing analysis (Landsat, NAIP, vegetation indices, and burn-severity mapping) to support ArcGIS Pro 3D and geospatial imagery workflows.
- Integrate real-time data streams from water, sewer, energy, and fiber-optic sensing into geospatial 3D models for infrastructure monitoring.
- Coordinate with UC Berkeley Facilities Team, EBMUD, and PG&E to support system assessment, resilience analysis, and operational awareness.

Product Engineer Intern

Redlands, California

Esri

June – August 2025

- Conducted daily QA testing of 3D features in ArcGIS Pro, including Multipatch editing and 3D Object Feature Layers.
- Developed workflows for applying PBR textures to user-generated 3D models, improving visual realism in ArcGIS Pro 3.6.
- Prototyped and evaluated 3D editing and visualization workflows to improve the usability and performance of ArcGIS Pro 3D features.

Geotechnical Engineer

Tembagapura, Indonesia

Freeport McMoran

February 2018 – June 2023

- Developed 3D subsurface interpretation and modeling for excavation support (SOE) systems in underground mines using 3D Geotech modeling software, including Map3D, Voxler, Maptek Vulcan, Leapfrog, and Deswik CAD.
- Generated surface and subsurface terrain models using TIN-based and 3D geotechnical modeling approaches for deformation and stability analysis.
- Monitored crack openings, surface deformation, and underground mine failures using IBIS radar, LiDAR, InSAR, prisms, GPS, photogrammetry, piezometer, and TDR. Software used included ArcGIS Pro, ArcMap, Minesight, and Canary System.
- Performed rock deformation and cave progression analysis using remote monitoring instrumentation, including but not limited to convergence, Borehole Camera, Elexon Smart Marker, ZF Scan, Zeb Revo, and TDR Instruments.
- Conducted regular underground mine tunnel field inspections, collecting heading development and displacement data in block cave and stope mining operations.
- Performed geological mapping in the UG mine, identifying geological structures and lithology to collect data for ground support design and stress modeling, as well as performing RQD tests to assess rock mass quality.
- Conducted slope stability analysis for ground support design using engineering geology software such as Dips, Slope W, Swedge, RocPlane, and RocTopple.
- Modeled subsurface deformation and mining-induced subsidence across six major mines, applying 3D stress and displacement modeling to support mining operations and safeguard 650 stakeholder-owned facilities.
- Led the Subsidence and Transition team as one of its founding members, establishing workflows, defining responsibilities, and coordinating tasks with internal departments, consultants, and external stakeholders.

Petroleum Geologist

Bandung, Indonesia

LAPI of Bandung Institute of Technology

July 2015 – June 2017

- Analyzed petrophysical parameters and core samples to determine optimal reservoir testing intervals for potential sites.

Additional

Software: ArcGIS Pro, ArcMap, ArcGIS Data Interoperability, ArcGIS Reality Studio, Drone2Map, AutoCAD 3D, Deswik CAD and MDM, Google Earth Engine, EPANet, Revit, Unity, Unreal Engine, Blender, Houdini, C++, Python, Visual Studio and VS Code, GitHub, Maptek Vulcan, Map3D, Plaxis 2D, Voxler, Bentley products, Agisoft Metashape, Cloud Compare, Rocscience Software.