ANANG SAHRONI

Data Analysis & Scientific Software Development | Python, data pipelines, dashboards

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PROFILE

Data analyst and software developer with a background in physics and geophysics. From 2020 to 2024, built real-time data pipelines, REST back-ends and dashboards for sensor data from seismic and magnetic instruments; since 2024, quantitative analysis of laboratory measurement data at LMU Munich. Strong in Python, signal processing and applied statistics; turns analyses into reusable software.

SKILLS

Programming	Python, JavaScript, Git, SQL, MATLAB
Back-end & data	Real-time event pipelines (Redis Pub/Sub), PostgreSQL, REST APIs (Django REST Framework)
Data analysis	Time-series and signal processing, statistics, inversion
Visualization	Interactive dashboards (Bokeh, HoloViz Panel, Plotly.js), web maps (LeafletJS)
Geospatial (GIS)	ArcGIS, QGIS (vector and raster data processing)
Languages	Indonesian (native), English (fluent, professional working proficiency)

WORK EXPERIENCE

Research Associate · Ludwig-Maximilians-Universität (LMU) München, Germany — Feb 2024 – Jan 2027

- Analyzing and quality-checking laboratory magnetometer data with PCA and directional statistics (Fisher distribution) in MATLAB
- Planning and running international field campaigns for data collection in six countries (Europe, Africa, Indonesia)
- Presenting results internationally: 2 peer-reviewed journal articles, 2 international conference contributions

Lecturer · Universitas Gadjah Mada, Indonesia — Jan 2025 – present

- On study leave for doctoral research in Germany

Computational Software Engineer (part-time, 75%) · Geoseismal Research Center, Indonesia — Apr 2020 – Jan 2024

- Technical lead of TARSIUS: designed the real-time pipeline from seismic stations to earthquake parameters (Python, Redis, PostgreSQL)
- Built back-ends and REST APIs (Python, Django REST Framework, PostgreSQL) for processing and managing magnetic, gravity and seismic measurement data
- Built web front-ends and dashboards (ReactJS) for data processing tools

Research Assistant · Universitas Gadjah Mada, Indonesia — Jan 2020 – Jun 2022

- Built a dashboard of earthquake statistics for Indonesia's provinces (Python, HoloViz Panel)
- Probabilistic seismic hazard modeling (PSHA) with OpenQuake
- Created Python/Jupyter course material for seismic data analysis: accelerogram processing, earthquake catalogs and location with ObsPy (GitHub)

Disaster Risk Analyst · Ministry of Agrarian Affairs and Spatial Planning, Indonesia — Jun 2019 – Jan 2020

- Spatial statistical modeling (weights of evidence) of natural hazards around the Palu Special Economic Zone, Sulawesi (ArcGIS, QGIS)

SELECTED PROJECTS · *Geoseismal Research Center, Indonesia*

TARSIUS – real-time earthquake monitoring; *technical lead* — 2022 – 2024

PertagamANT 2.0 – non-seismic geophysical data processing (time-lapse microgravity, ground magnetic and aeromagnetic data); *backend developer* · registered copyright (DJKI) — 2023

Spectragama 3 – passive seismic data processing and management; *backend developer* · registered copyright (DJKI) — 2022

Gamadesk – Android and desktop prototype for real-time seismometer data streaming (WebSocket); *front-end developer* — 2021

PertagamANT – ambient seismic noise tomography; *front-end developer* · registered copyright (DJKI) — 2020

EDUCATION

Ph.D., Geophysics · Ludwig-Maximilians-Universität (LMU) München, Germany — Feb 2024 – expected 2027

M.Sc., Physics/Geophysics · Universitas Gadjah Mada, Indonesia — Aug 2020 – Jan 2023

B.Sc., Geophysics · Universitas Gadjah Mada, Indonesia — Aug 2014 – Jan 2019