




My Portfolio

Bachelor of Geophysical Engineering

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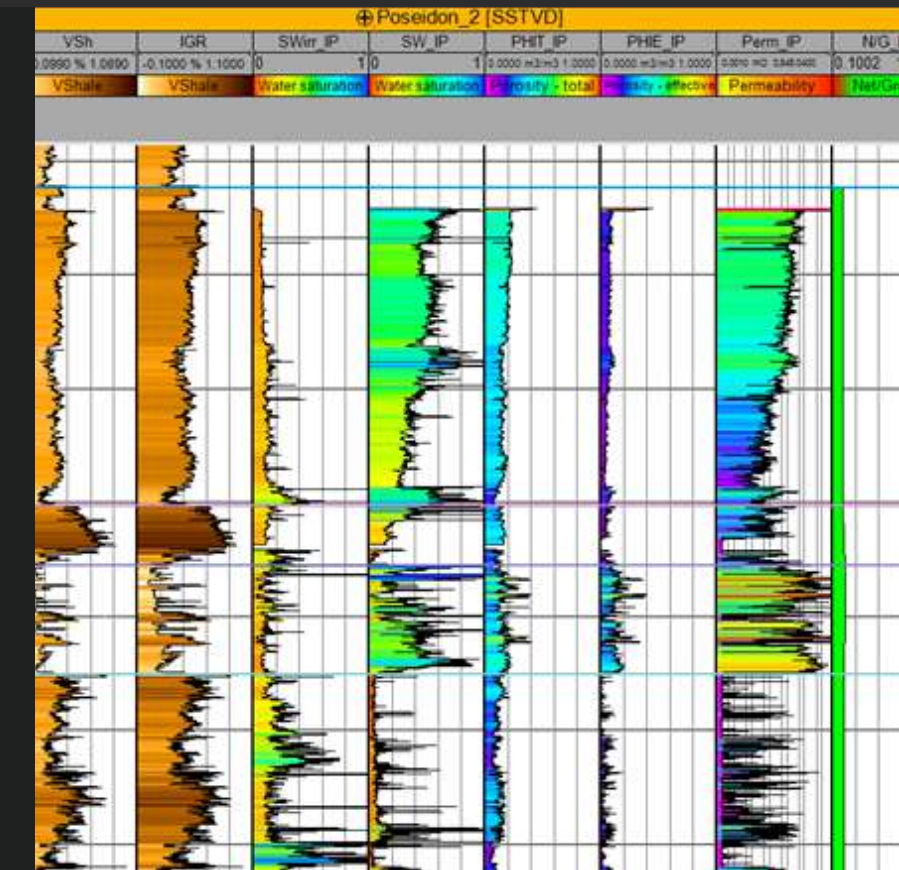
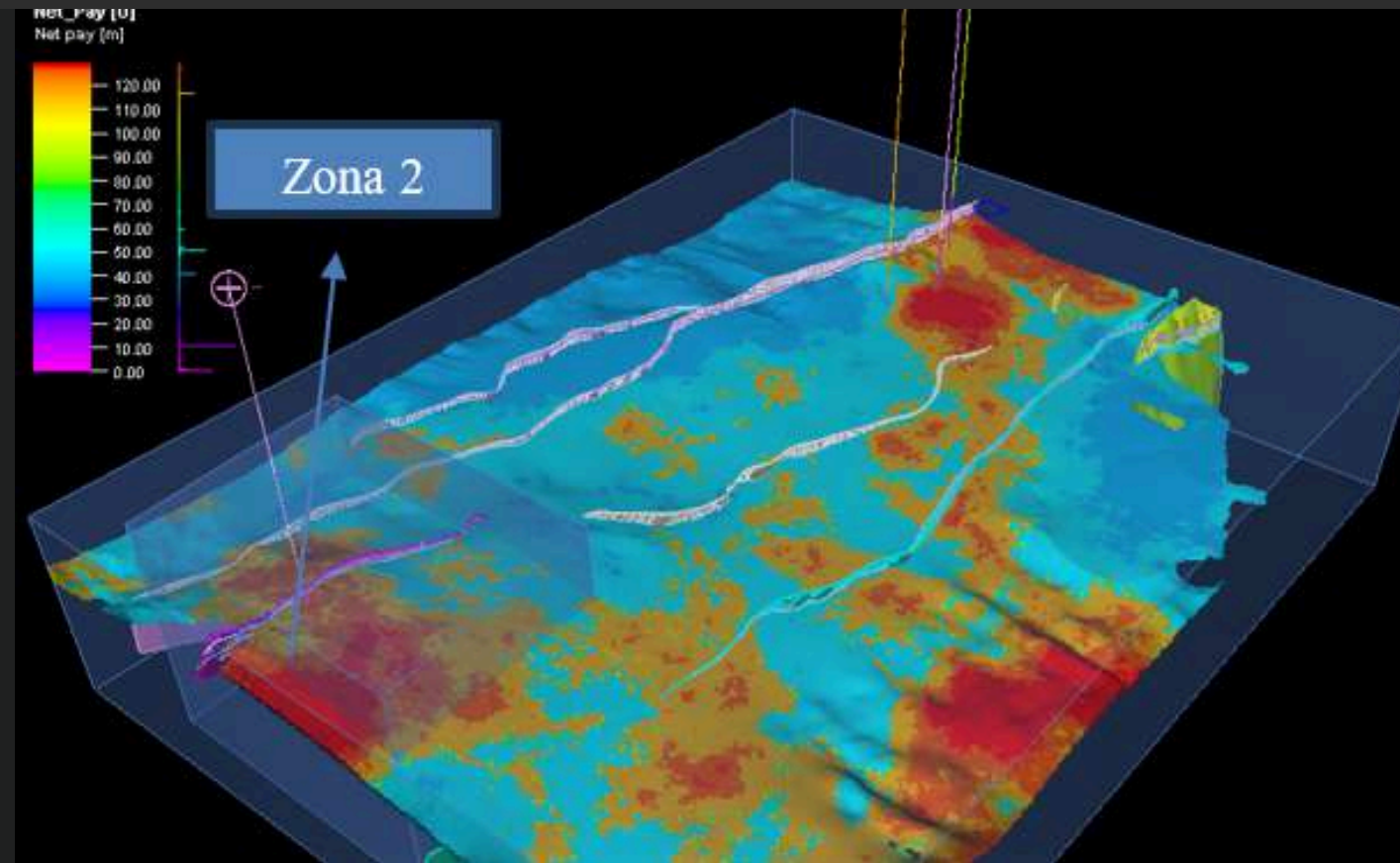
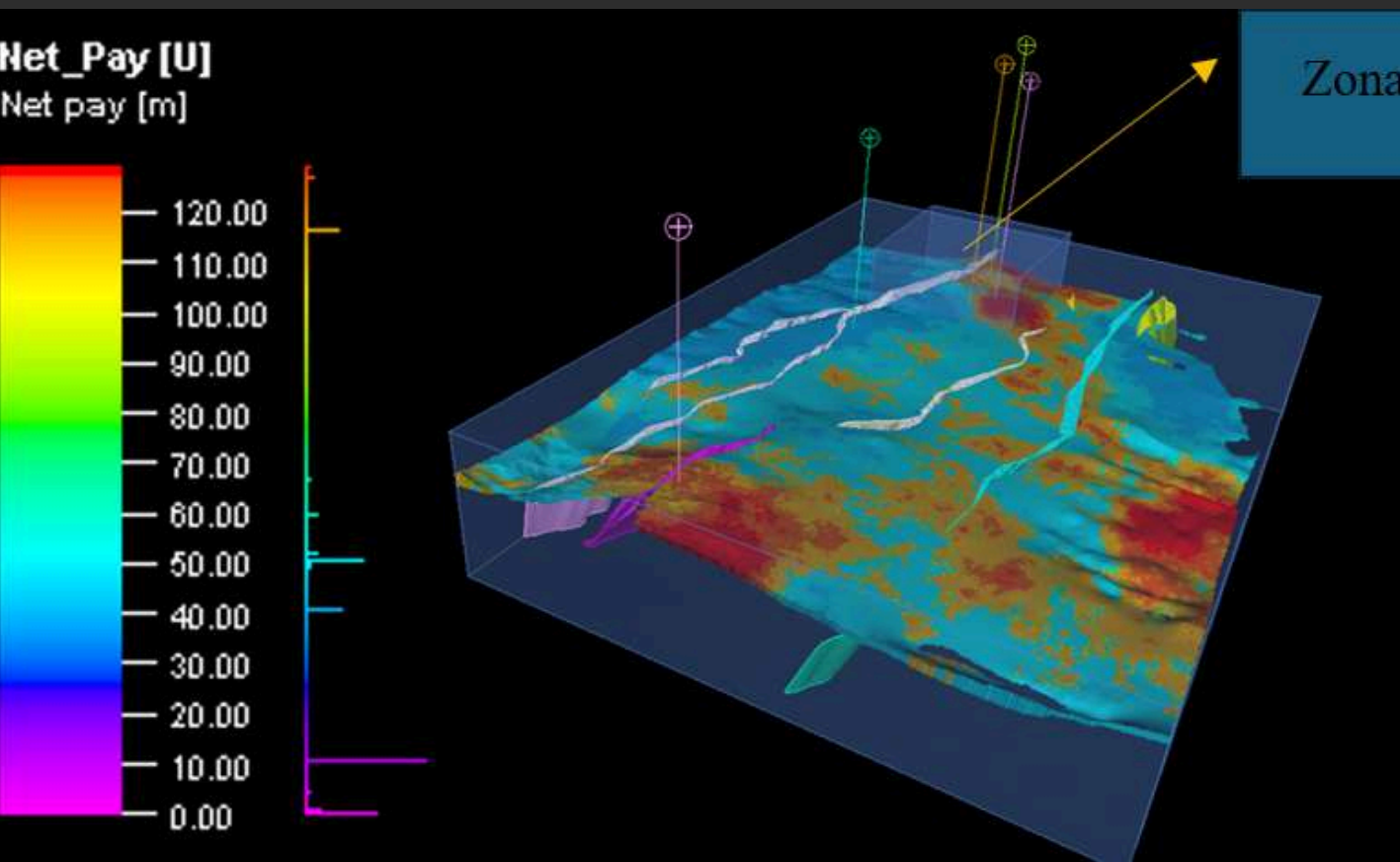
MEDCOENERGI 



Ihsan Fermantono

As a fresh graduate in Geophysical Engineering from Institut Teknologi Sepuluh Nopember, I am passionate about leveraging data analytics, geospatial systems, and machine learning to deliver innovative solutions in the energy sector. My academic journey and diverse internships—ranging from operational excellence in oil and gas to WebGIS development and geophysical data interpretation—have strengthened my ability to work both independently and in cross-functional teams. Known for my adaptability, analytical thinking, and commitment to continuous improvement, I bring a strong foundation in digital tools, data visualization, and project management. Guided by a mindset of innovation and collaboration, I am eager to contribute my skills to drive impactful results in dynamic operational environments.

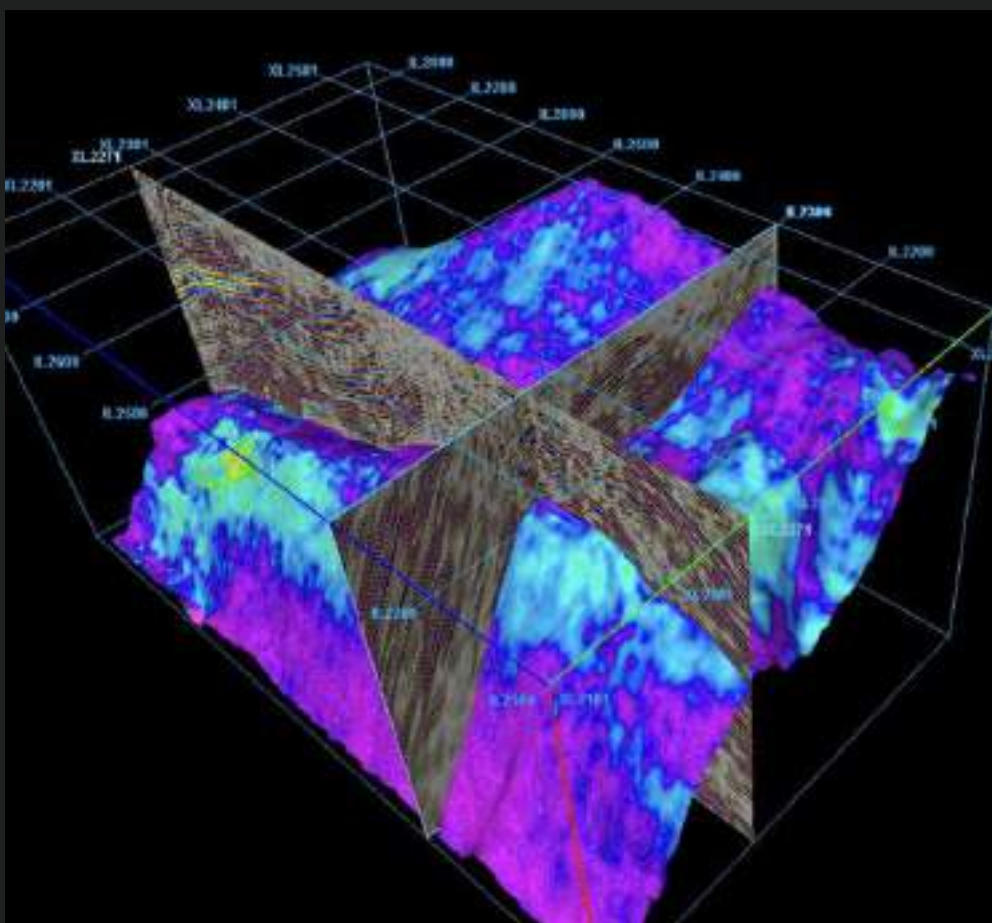




Capstone Project

- **Reservoir Characterization in Poseidon Field:** Conducted an integrated reservoir study using 7 well datasets and 3D seismic data from Poseidon Field (ConocoPhillips). Petrophysical analysis focused on porosity and permeability distribution, validated against core data to ensure accuracy and reliability of results.
- **Petrophysical Evaluation:** Determined porosity ranges of 5–24.59% (Plover Formation) and 5.1–23.6% (Montara Formation), with permeability ranging from 0.02–7262 mD (Plover) and 0.02–2780 mD (Montara). These values confirm favorable reservoir quality and potential for hydrocarbon accumulation.
- **Prospect Zone Identification:** Mapped two primary prospect zones within the northern seismic boundary, near existing wells, characterized by high pay thickness, 20% porosity, 5% shale volume, 20% water saturation, and permeability of 150 mD, indicating strong storage capacity and fluid flow potential.

- **Seismic Interpretation:** Performed horizon picking and structural mapping to delineate reservoir boundaries, integrating seismic attributes with petrophysical maps to enhance subsurface understanding.
- **Lithology Confirmation:** Analyzed gamma ray and volume shale logs from nearby wells, revealing a sand-dominated lithology over shale, supporting high-quality reservoir interpretation.
- **Integration of Multidisciplinary Data:** Combined seismic interpretation, well log analysis, and core validation to create a coherent reservoir model that supports hydrocarbon prospectivity and production planning.
- **Development Insights:** The integrated workflow highlights the northern zone as the most promising development target, aligning geological, petrophysical, and seismic evidence to guide exploration and field development strategies.



My Professional Experience

PT. Medco E&P Indonesia

Operations Excellence Analyst Intern (2024-2025)

01.

- Implemented 6 Pillars of Operational Excellence through development of 4 digital tools adopted company-wide.
- Prepared audit documentation by reviewing 8 previous reports, improving compliance readiness.
- Designed and managed SharePoint platform hosting 200+ operational documents for 50+ users.
- Delivered monthly reports and facilitated cross-functional coordination meetings.

Geophysicist Practical Work (2023)

02.

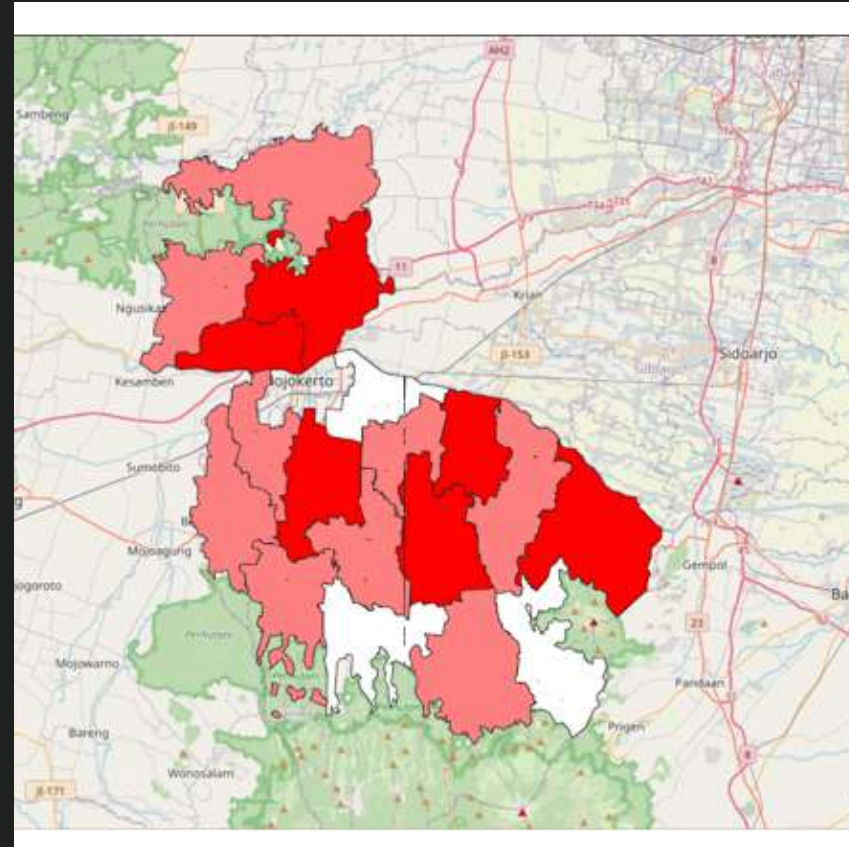
- Performed well-seismic tie achieving 0.7 alignment accuracy, enhancing horizon picking and structural mapping precision.
- Generated subsurface attribute models (RMS, Variance, Sweetness) over a 10 km² area, improving interpretation detail.

My Professional Experience

Statistic Indonesia

Data Analyst Intern (2024)

- Collected, processed, and managed large datasets in the Data Dalam Angka (DDA) system, ensuring accuracy and consistency across multiple statistical indicators.
- Designed and implemented a WebGIS platform to visualize statistical data geographically, enhancing data accessibility and decision-making for 200+ internal and external stakeholders.
- Conducted data verification and quality control, identifying and correcting inconsistencies to improve the reliability of official reports.
- Collaborated with cross-department teams to integrate spatial and tabular data, producing thematic maps for economic, demographic, and agricultural statistics.
- Prepared analytical summaries and visual presentations to support publication of Mojokerto's annual statistical report.



Documentations

Mobile Development

1. Download or clone this project
2. Open project in Android Studio
3. Download the libraries
4. Run the project

<https://github.com/flikriks/camping-cuy>

Bangkit Academy

Machine Learning Cohort (2023)

- Led data collection by web scraping 5,000+ camping site records in West Java, building a comprehensive dataset for model training.
- Preprocessed, trained, and tested a machine learning model achieving 80% accuracy, saved in both .h5 and JSON formats for flexible deployment.
- Developed and deployed an API to integrate the model with applications, reducing data processing time by 30%.
- Applied TensorFlow, Python, and cloud deployment tools to enhance scalability and usability for end-users.
- Completed certified courses in machine learning, supervised/unsupervised learning, computer vision, NLP, and project structuring through Coursera and Dicoding.

How Machine Learning build it

Near Your Location

Recommendation based on user and camping locations

- **Method**
Formula Haversine to calculate distance between two locations (user and camping)
- **Input**

```

user_coord = (-6.988888888888889, 107.34333333333333)
camping_coord = (-6.988888888888889, 107.34333333333333)
distance = haversine(user_coord, camping_coord)

```

- **Output**

Popular Camping

Recommendation based on rating from user

We use product 'rating'

- **Training**

My Projects



Integrated Geophysical Field Project (2023)

- Operated and managed multiple geophysical survey methods including gravity, active seismic, microtremor, GPR, geoelectric, GPS, geological mapping, and magnetotelluric.
- Served as the primary person-in-charge for magnetotelluric data processing, ensuring high-quality results and interpretation accuracy.
- Assisted in the processing and interpretation of other methods such as seismic refraction, gravity, and GPR to support integrated subsurface modeling.
- Coordinated field operations, instrument setup, and data acquisition to meet project objectives efficiently.
- Contributed to final reporting, integrating multidisciplinary geophysical data for comprehensive subsurface evaluation.

Geological Bootcamp at Karangsambung (2022)

- Conducted detailed field study and sampling of various rock types in the Karangsambung area, focusing on lithological description, petrography, and structural geology.
- Mapped geological units and measured stratigraphic sections to interpret depositional environments and tectonic history.
- Collected and analyzed hand specimens and thin sections to identify mineral composition, texture, and classification of rocks.
- Collaborated in a multidisciplinary team to compile geological maps and present findings in a comprehensive report.

Core Competencies



Engineering and Technical Skills

- Seismic interpretation & structural modeling (Petrel, HRS)
 - Well log & petrophysical analysis
 - Geophysical data processing (seismic, MT, gravity, GPR, geoelectric)
 - Core-log integration & reservoir characterization
 - GIS mapping (ArcGIS, QGIS, WebGIS)
- Data analytics & visualization (Python, Power BI, Excel)

Soft Skills

- Analytical Thinking & Insight Generation
- Technical Problem-Solving
- Multidisciplinary Team Collaboration
- Clear Technical & Non-Technical Communication
- Effective Time Management
- Adaptability to Changing Conditions
- Leadership & Team Coordination

Achievement



First Winner SEG Challenge Bowl Asia Pacific Region [🔗](#)

Won a regional geoscience quiz competition, earning the chance to represent Asia Pacific at the global SEG Challenge Bowl in the USA.



Third Winner Design Survey Exploration of Oil and Gas [🔗](#)

Secured third place in a national competition for designing oil and gas exploration surveys, demonstrating strong technical planning, data analysis, and field design skills.



Second Runner Up Design Survey Geothermal [🔗](#)

Achieved third place nationally by designing an effective geothermal exploration survey, showcasing skills in subsurface analysis, resource estimation, and exploration planning.



Publication in South East Asia Conference of Geophysics (SEACG) [🔗](#)

Co-authored and presented a geophysical research paper at the South East Asian Conference on Geophysics 2023, published in IOP Conference Series: Earth and Environmental Science, providing insights into regional geophysical characteristics and engaging over 100 industry and academic participants.

Sertification



Structuring Machine Learning Projects

- Mathematics for ML and Data Science
- TensorFlow: Data and Deployment



Supervised ML: Regression and Classification

- Unsupervised Learning, Recommenders, Reinforcement Learning
- Structuring Machine Learning Projects



Machine Learning by DeepLearning.AI

- Convolutional Neural Networks in TensorFlow
- Data Pipelines with TensorFlow Data Services



Petrophysics Training

- Menyelesaikan training petrofisika intensif yang dipimpin oleh ahli industri.
- Menganalisis data 5 sumur, meningkatkan akurasi interpretasi sebesar 30%.



Let's Work Together

My Contact



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Thank You

