

Mohammad Taufik

Computational geoscientist
with expertise in scientific machine learning

hatsyim@gmail.com
+966-545-075-157
<https://hatsyim.github.io/>

Education

- **King Abdullah University of Science and Technology** Thuwal, KSA
PhD in Machine Learning in Geosciences; GPA: 3.89 *January 2022 - Present*
- **King Abdullah University of Science and Technology** Thuwal, KSA
MSc in Machine Learning in Geosciences; GPA: 3.86 *August 2020 - December 2021*
- **Bandung Institute of Technology** Bandung, INA
BSc in Geophysics; GPA: 3.78 *August 2015 - June 2019*

Experience

- **Cloud4C** Jakarta, INA
Machine Learning Engineer Intern *June 2022 - August 2022*
 - **Computer Vision:** Built and deployed a machine learning model to detect safety equipments given a set of images on Amazon AWS.
 - **Natural Language Processing:** Built web application based on Flask for a web summarizer given a text, website link, or PDF file as input.
 - **Cloud Architecture:** Deployed machine learning model on Amazon AWS and orchestrate the data IO between S3, user's mobile phone, and local machine for a recommendation system application.
- **Pertamina Hulu Kalimantan Timur** Balikpapan, INA
Geophysicist *June 2019 - May 2020*
 - **Interpretation:** Involved in the regional joint study along the Makassar Strait.
 - **Geophysics:** Generating well-seismic tie process, seismic data quality assessment, depth-time conversion process.
 - **Geology:** Generating three-dimensional (3D) velocity model to build 3D pore pressure cube.
 - **Reservoir:** Initiated rock physical data visualization for sand-shale distribution analysis.
- **Bandung Institute of Technology** Bandung, INA
Research Assistant *Auguts 2017 - June 2019*
 - **Seismic Processing:** Constructing a guideline in seismic data processing and basic signal processing. Mentoring and grading the learning process of the course.
 - **Seismology:** Constructing a guideline in basic seismology course. Supervising basic seismological routine processing like earthquake relocation and arrival time picking.
 - **Seismic Refraction:** Constructing a guideline in exploration seismic refraction course. Supervising routine seismic refraction processing routine.
 - **Geophysical Instrumentation:** Supervising basic electrical engineering behind potential methods in geophysics, electrostatic, and electrodynamic in geophysics. Mentoring and grading the learning process of the course.
 - **Computational Geophysics:** Constructing a guideline in basic numerical methods in geophysical prospecting methods. Supervising basic numerical methods for simple gravimetry method.
 - **Electrical Analysis:** Constructing a guideline in basic electrical engineering and signal processing in geophysics. Supervising basic electrical engineering behind potential methods in geophysics, electrostatic, and electrodynamic in geophysics.
- **PetroChina** Jakarta, INA
Geophysicist Intern *June 2018 - August 2018*
 - **Quantitative Seismic Interpretation:** Analyzing elastic properties of reservoir rocks through rock physics analysis.
 - **Rock Physics:** Generating well-seismic tie process and enhancing rock properties distribution map through multi-attribute analysis.

Projects

- **Physics-informed Machine Learning:** Solving a parametric PDE (the eikonal equation) for 2D to 3D Earth's velocity model.
- **Mass Spectrometry:** Data visualization web application based on plotly with data processing in R.
- **Wireline Transformers:** Wireline logs prediction using a Transformers-based machine learning model.

Programming Skills

- **Languages:** Matlab, Python, R, Bash, LaTeX, C++
- **DevOps:** AWS, Docker, Kubernetes, GCP
- **Machine Learning:** TensorFlow, Keras, PyTorch, Scikit-learn, SciANN
- **Data Visualization:** D3.js, Plotly, Carto
- **Front-end:** Hugo, CSS, HTML5
- **Databases:** SAS, PostgreSQL, SQLite, MySQL, MongoDB, BigQuery, Apache Spark

Scientific Conferences

- **SEG Annual Meeting** Houston, USA
Student Presenter *September 2022*
- **EAGE Annual Meeting** Madrid, ESP
Student Presenter *June 2022*
- **AGU Annual Meeting** New Orleans, USA
Student Presenter *December 2021*
- **EAGE Annual Meeting** Amsterdam, NED
Student Presenter *October 2021*
- **IPA Annual Convention and Exhibition** Jakarta, INA
Student Presenter *September 2019*

Honors, Awards, and Fellowships

- **Middle East Super Bowl Champion** *2021*
Society of Exploration Geophysicists
- **KAUST Fellow** *2020 - Present*
King Abdullah University of Science and Technology
- **Dean's Honor List** *2015 - 2019*
Bandung Institute of Technology
- **Student Paper Finalist** *2018*
Malaysia University of Technology
- **Best Geosciences Student Presenter** *2019*
Indonesian Petroleum Associations
- **Best Thesis Presentation** *2019*
Bandung Institute of Technology
- **Best Student Paper Presenter** *2018*
Trisakti University
- **Smart Competition Winner** *2018*
University of Indonesia
- **Smart Competition Winner** *2018*
Bandung Institute of Technology