Reza Dwi Utomo Data Scientist | ML Engineer | AI Enthusiast

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Profile

An engineer specializing in data-driven analysis. Currently working as a Data Scientist at Telkom Indonesia and appointed as Head of Legal Data Analytics at Legal Analytics (Powered by Telkom Indonesia). Self-motivated AI enthusiast with 5 years of varied experience, such as in independent research in intelligent control, reliability in the manufacture, and machine learning.

Highly interested in tech and AI applications, e.g. intelligent transport systems, natural language processing, computer vision, machine learning, big data, data science, and other intelligent applications. Skilled in analytical programming, e.g. Python, MATLAB, and R, and in AWS Cloud environment. Having data science and machine learning certificates from Udacity, deeplearning.ai, Microsoft Certified, and IBM Professional Certificate, to name a few.

Skills

Python (NumPy, Pandas, Scikit-learn, Matplotlib, Plotly, Dash, etc.), **Deep Learning** (Keras, TensorFlow, PyTorch),
Natural Language Processing (NLTK, SpaCy, Gensim, FastText, Transformers (Hugging Face)), **Linux Bash**,
R (dplyr, ggplot, flexdashboard, shiny), **AWS** (SageMaker, S3, EC2, API Gateway), **SQL** (MySQL, MariaDB, SQLite),
NoSQL (Elasticsearch), **Git** (GitHub, GitLab), **MLOps** (MLflow, DVC), **Web Scrapping** (BeautifulSoup, Selenium),
Social Network Analysis (Gephi), **Azure** (Azure Machine Learning), **Deployment** (Flask, FastAPI, Docker),
MATLAB (Simulink)

Professional Experience

Head of Legal Data Analytics,   Jan 2022 — present | Jakarta
Legal Analytics Powered by Telkom Indonesia 🔗
- Helping governmental and corporate organizations to implement Big Data and AI-based law, legal, and social solutions.
- Translating requirements from users or management levels into Big Data and AI solutions.
- Delivering solutions for tens of billions of rupiahs worth of projects.
- Managing a team consisting of 10± data scientists to develop and deliver Big Data and AI solutions.

Data Scientist, *PT Telkom Indonesia (Persero), Tbk.* 🔗   Oct 2020 — present | Jakarta
- Implementing various Big Data and AI approaches to deliver the best analytics solutions for tens of billions of rupiahs worth of each client's requirements.
- Managed to reduce the processing time of the client's single task from hours to less than 30 minutes.
- Effectively delivered solutions to 2 or more clients every quarter of the year.
- Collaborated with 5+ colleagues to realize our team as a digital company (legalnalytics.id).
- Effectively delivered Big Data and AI solutions on hundreds of millions of various text-based data.
- Developing a Big Data and AI system to serve 2000+ governmental institutions, almost 10 thousand organizations, and all Indonesian citizens (200+ million people).

Data Scientist, *CODEX Powered by Telkom Indonesia* 🔗   Apr 2020 — Sep 2020 | Jakarta
- Collaborated with 5+ Data Scientists to deliver Big Data and AI solutions on a project worth billions of rupiahs.
- Involved in a data science team to work on the project to implement Natural Language Processing for Text Similarity in law.
- Worked on millions of COVID-19 cases data on the PeduliLindungi App 🔗 .
- Implemented Anomaly Detection on hundreds of thousands of data in the project of big data analytics.

Engineer, *PT Industri Kereta Api (Persero)* 🔗   Feb 2019 — Dec 2019 | Madiun
- Performed statistics-based (e.g. descriptive, inferential, regression) reliability prediction analysis on various projects where each was worth hundreds of billions of rupiahs.
- Assigned to develop a dedicated-for-INKA concept of work for RAMS analysis (Reliability, Availability, Maintainability and Safety) of the rolling stock system.
- As the main contributor to the development of the RAMS management process at the company.
- Performed the RAMS management Process using EN 50126.

Junior Expert,   May 2018 — Jan 2019 | South Tangerang
Agency for the Assessment and Application of Technology (BPPT) 🔗
- Performed statistics-based (e.g. descriptive, inferential, regression) reliability prediction analysis on a project worth a trillion of rupiahs.
- Collaborated with 10+ engineers to deliver prediction analysis for the project.
- Developed FTA (Fault Tree Analysis) in R using RStudio.
- Performed RAMS analysis for the systems of the doors, HVAC, bogie, wiring and piping connections, and control panels of the rolling stocks.

Education

MRes in Railway Systems Integration, *University of Birmingham* 🔗   Aug 2018 — Sep 2018 | Birmingham, UK
- Core modules: Mathematics as an Engineering Tool, Railway Operations and Control Systems, Railway Traction Systems Design, Railway Control Systems Engineering, Research Skills and Research Environment.
- The thesis topic is to develop ATO (Automatic Train Operation) Control Systems with Kalman filter (developed in MATLAB) with a case study of Docklands Light Railway in London. A part of the thesis was presented at the IEEE International Conference on Intelligent Rail Transportation (ICIRT) December 2018 🔗 in Singapore and published on IEEExplore 🔗 .

BEng in Computer Engineering, *Diponegoro University* 🔗   Sep 2010 — Aug 2015 | Semarang
- Core modules: artificial intelligence, fuzzy logic, neural networks, real-time operating system (RTOS), microprocessor design, embedded system, and distributed embedded system.
- The final project topic was to develop a fuzzy logic controller (developed in MATLAB/Simulink) able to control the transfer function of the train—published 🔗 in IEEE Conference Proceedings 🔗 .

Courses

MLE for Production (MLOps) Specialization, *deeplearning.ai* 🔗   Jul 2022 — present
The Machine Learning Engineering for Production (MLOps) Specialization covers how to conceptualize, build, and maintain integrated systems that continuously operate in production. In striking contrast with standard machine learning modeling, production systems need to handle relentless evolving data.

Data Scientist Nanodegree, *Udacity* 🔗   Aug 2021 — Dec 2021
The student will master the skills necessary to become a successful Data Scientist. He will work on projects designed by industry experts, and learn to run data pipelines, design experiments, build recommendation systems, and deploy solutions to the cloud.

Natural Language Processing Specialization, *deeplearning.ai* 🔗   Mar 2021 — Jul 2021
The student will be ready to design various NLP applications. This Specialization is designed and taught by two experts: Younes Bensouda Mourri (an Instructor of AI at Stanford University) and Łukasz Kaiser (a Staff Research Scientist at Google Brain and the co-author of Tensorflow, the Tensor2Tensor and Trax libraries, and the Transformer paper).

TensorFlow Developer Professional Certificate, *deeplearning.ai* 🔗   Dec 2020 — Jan 2021
The student will learn the necessary tools to build scalable AI-powered applications with TensorFlow. After finishing this program, he will be able to apply his new TensorFlow skills to a wide range of problems and projects. This program can help you prepare for the Google TensorFlow Certificate exam and bring you one step closer to achieving the Google TensorFlow Certificate.

Deep Learning Specialization, *deeplearning.ai* 🔗   Sep 2020 — Dec 2020
The student will build and train neural network architectures such as Convolutional Neural Networks, Recurrent Neural Networks, LSTMs, Transformers, and learn how to make them better with strategies such as Dropout, BatchNorm, Xavier/He initialization, and more.

IBM Data Science Professional Certificate, *Coursera* 🔗   Nov 2019 — May 2020
The program consists of 9 online courses that will provide the student with the latest job-ready tools and skills, including open-source tools and libraries, Python, databases, SQL, data visualization, data analysis, statistical analysis, predictive modeling, and machine learning algorithms. He will learn data science through hands-on practice in the IBM Cloud using real data science tools and real-world data sets.

Data Science Academy, *Algoritma Data Science Academy* 🔗   Jan 2020 — Mar 2020 | Jakarta
The curriculum consists of two specializations: Data Visualization 🔗 and Machine Learning 🔗 . The former is a 4-week bundle of courses curated to accelerate a student's mastery in building data products, cleaning data, visualizing data in interactive dashboards, and extracting actionable insights. The latter is an 8-week bundle curated to accelerate a student's mastery in building data products, developing machine learning models, and understanding the core components that form most of industrial-grade AI today.

Certificates

- Microsoft Certified: Azure Fundamentals 🔗
- Microsoft Certified: Azure AI Fundamentals 🔗