# Reza Dwi Utomo

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## Summary

As an engineer specializing in the data-driven analysis, I'm currently working as a Data Scientist at CODEX, Powered by Telkom Indonesia. As self-motivated data enthusiast with 4 years of varied experience, such as in independent research in intelligent control and RAMS (Reliability, Availability, Maintainability, and Safety) in manufacture, I'm highly interested in tech applications, e.g. intelligent transport systems, machine learning, business intelligence, big data, and data science. Skilled in analytical programming, e.g. MATLAB, Python, and R, I have data science and machine learning certificates from an RStudio-certified Bootcamp, Coursera, and DataCamp.

## Formal Education

### MRes in Railway Systems Integration (upper division 2.1)
**08/2016 - 09/2018**

University of 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 presented at the IEEE International Conference on Intelligent Rail Transportation (ICIRT) December 2018 in Singapore and published on IEEExplore.

### BEng in Computer Engineering (GPA 3.22)
**09/2010 - 08/2015**

Diponegoro University

Core modules: artificial intelligence, fuzzy logic, neural networks, real-time operating system (RTOS), microprocessor design, embedded system and distributed embedded system.

Final project topic was to develop fuzzy logic controller (developed in MATLAB/Simulink) able to control transfer function of the train–published in IEEE Conference Proceedings.

## Technical Skills

| Skill | Level |
|---|---|
| MATLAB/Simulink | ●●●●○ Very good |
| Python | ●●●●○ Very good |
| R | ●●●●○ Very good |
| SQL | ●●○○○ Intermediate |
| Git/GitHub | ●●○○○ Intermediate |
| Linux (Ubuntu) | ●●○○○ Intermediate |
| HTML | ●○○○○ Basic |
| Hadoop | ●○○○○ Basic |
| Spark/PySpark | ●○○○○ Basic |

## Key Skills

**Problem solving**
**Effective communication**
**Teamwork**
**Interpersonal**
**Leadership**
**Analytical thinking**
**Adaptability**

## Personal Development

**Machine Learning Specialization – Algoritma**                    **Accomplished 03/2020**

A specialization in Algoritma Bootcamp which teaches the implementation of machine learning methods, such as Linear Regression, Logistic Regression, K-Nearest Neighbours, Naïve Bayes, Decision Tree, Random Forest, Principal Component Analysis, K-Means Clustering, Exponential Smoothing, ARIMA/SARIMA, and Neural Networks.

**IBM Data Science Professional Certificate – Coursera** **in progress**

Obtaining a financial aid from Coursera to enrol in this programme. There are 9 courses, i.e. what is data science, open source tools and libraries, methodology, Python, databases, SQL, data visualization, data analysis, IBM Cloud, and machine learning.

**Data Visualization Specialization – Algoritma Bootcamp** **Accomplished 01/2020**

A specialization in Algoritma Bootcamp which teaches the programming for data science using RStudio, data visualization using R base plots and advanced plots, e.g. ggplot and leaflet, and intercactive plots and dynamic dashboard using plotly, flexdashboard, and Shiny dashboard.

**Data Analyst with Python Career Track – DataCamp** **Accomplished 11/2019**

A career track with 16 courses (60 hours) focusing on data extraction, data cleaning, data visualization, and statistics using Python and SQL.

And many more.

## Experience

**Data Scientist – CODEX, Powered by Telkom Indonesia** **04/2020 - Present**

- Involved in a data science team to work in the project to implement NLP
- Involved in a voluntary data science team to work in the project of COVID-19

**Engineer Staff – PT Industri Kereta Api (Persero)** **02/2019 - 12/2019**
**Indonesian Rolling Stock Manufacturer**

- 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 for the development of RAMS management process at the company.
- Performed RAMS management Process using EN 50126.
- Performed statistics-based reliability prediction analysis (developed in MATLAB) on passenger coach whose results are used as a base for managerial decision.

**Junior Expert – Centre of Technology for Transport System and Infrastructure  05/2018 - 01/2019**
**Agency for the Assessment and Application of Technology (BPPT)**

- Involved in the LRT Greater Jakarta project.
- Working in an engineering team collaborated with PT INKA.
- Performing RAMS (Reliability, Availability, Maintainability and Safety) analysis (e.g. FTA, FMEA, MTTR, MTBF, EN 50126) for the systems of doors, HVAC, bogie, wiring and piping connections, and control panels of the rolling stocks.
- Developing FTA (Fault Tree Analysis) in R using RStudio.

**Apprentice – PT Citas Otis Elevator** **04/2016 - 07/2016**

- Worked as an apprentice at Service Field Department.
- Created official reports from the technical documentation.
- Assisted senior employees in their daily tasks.
- Helped to increase the customers' satisfaction.

**Intern – Centre of Technology for Information & Communication Technology    11/2013 - 12/2013**
**Agency for the Assessment and Application of Technology (BPPT)**

- Worked in an R&D-atmospheric environment which required a weekly progress presentation.
- Managed to have good communications with senior researchers.
- Developed a card reader to read specific data from a smart card based on HY-LPC1788-SDK.
- Applied the modules of the embedded system and RTOS.
- Program written in C++.
- My work was utilised for further developments in national ID cards.