

Tugas JST

#Individual Task

1. MLP (Multi Layer Perceptron)

Jalankan kode MLP dari tugas yang telah diberikan sebelumnya (lihat classroom, tugas untuk UTS), menggunakan **google collaboratory**.

a. Regresi

[Regression Tutorial with the Keras Deep Learning Library in Python
\(machinelearningmastery.com\)](https://machinelearningmastery.com/regression-tutorial-with-the-keras-deep-learning-library-in-python/)

Notes:

1. Download dataset dan upload ke google drive.
2. Gunakan perintah mount data untuk menyambungkan google collaboratory and google drive

b. Klasifikasi

[TensorFlow 2 Tutorial: Get Started in Deep Learning With tf.keras
\(machinelearningmastery.com\)](https://machinelearningmastery.com/tensorflow-2-tutorial-get-started-in-deep-learning-with-tf-keras/)

[Multi-Class Classification Tutorial with the Keras Deep Learning Library
\(machinelearningmastery.com\)](https://machinelearningmastery.com/multi-class-classification-tutorial-with-the-keras-deep-learning-library/)

[Develop a Neural Network for Cancer Survival Dataset
\(machinelearningmastery.com\)](https://machinelearningmastery.com/develop-a-neural-network-for-cancer-survival-dataset/)

2. LSTM

Jalankan kode MLP dari tugas yang telah diberikan sebelumnya (lihat classroom, tugas untuk UTS), menggunakan **google collaboratory**.

[How to Develop LSTM Models for Time Series Forecasting
\(machinelearningmastery.com\)](https://machinelearningmastery.com/how-to-develop-lstm-models-for-time-series-forecasting/)

[Multi-Step LSTM Time Series Forecasting Models for Power Usage
\(machinelearningmastery.com\)](https://machinelearningmastery.com/multi-step-lstm-time-series-forecasting-models-for-power-usage/)

a. Univariate

[Univariate Time Series Prediction Using LSTM | mobiarch \(wordpress.com\)](https://mobiarch.wordpress.com/univariate-time-series-prediction-using-lstm/)

[LSTM Framework For Univariate Time-Series Prediction | by Joseph \(Iosif\) Mushailov | Mar, 2021 | Towards Data Science](#)

b. Multivariate

[Multivariate Time Series Forecasting with LSTMs in Keras \(machinelearningmastery.com\)](#)

[Multivariate Time Series Forecasting with a Bidirectional LSTM: Building a Model Geared to Multiple Input Series | by Pierre Beaujuge | Medium](#)

c. Multistep

[Multi-Step LSTM Time Series Forecasting Models for Power Usage \(machinelearningmastery.com\)](#)

[Multistep Time Series Forecasting with LSTMs in Python \(machinelearningmastery.com\)](#)

d. Multivariate Multi step

[Multi-Step Multivariate Time-Series Forecasting using LSTM | by Pang K.H. | Medium](#)

Notes:

1. Download dataset dan upload ke google drive.
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3. Simulasikan Model dan Pakai Model

Setelah model telah jadi, selanjutnya lakukan save & load model (optional). Model dapat digunakan dan diembedkan di perangkat anda (web, mobile, desktop, etc).

Sekurang-kurangnya gunakan fungsi predict() untuk memprediksi data dari model pelatihan (training).

Lihat tutorial berikut:

[Save and load Keras models | TensorFlow Core](#)

[How to save/load model and continue training using the HDF5 file in Keras? - knowledge Transfer \(androidkt.com\)](#)

[Python Project on Traffic Signs Recognition with 95% Accuracy using CNN & Keras - DataFlair \(data-flair.training\)](#)

#Team Presentation Task

1. Tiap Kelompok mencari dataset (structured & unstructured)

Tentukan input (x) dan output (y) dari dataset terkait. Boleh menggunakan **regresi** maupun **klasifikasi**.

2. Setiap kelompok memilih model MLP / LSTM.

3. Presentasi max 10 slides

Pada saat presentasi :

- a. Dataset ditampilkan walaupun hanya sepotong
- b. Jelaskan proses training dan evaluasi model
- c. Menjelaskan arsitektur yang digunakan
 - Gambarkan arsitektur **hyperparameter struktur (like dense, activation function, and etc)**
 - Jelaskan **hyperparameter training (like epoch, batch and etc)**

Upload seluruh pekerjaan anda ke **github** masing-masing. Tambahkan model yang telah disimpan, serta dataset yang diambil.

Tonton video berikut:

[GIT & GITHUB - YouTube](#)

Other Resource:

[Upload Project/Files On Github Using Command line - Tuts Make](#)