

DAFTAR PUSTAKA

- Ananto, Indra Dwi. 2015 Aplikasi Pengolahan Citra Mendeteksi Kualitas Cabai Berdasarkan Tingkat Kematangan Menggunakan Transformasi Warna YcbCr. Diakses 13 April 2018.
- Banu P, Wawan. 2017. Si “Imut” Perusak Tanaman Cabai. http://kaltim.litbang.pertanian.go.id/ind/index.php?option=com_content&view=article&id=900&Itemid=97. diakses pada 13 April 2018.
- BPTP Sulsel, 2021. “Budidaya Cabai” diakses pada tanggal 28 Juli 2021 dari: <https://sulse.litbang.pertanian.go.id/ind/images/leaflet/Budidaya-cabai-1.pdf>
- CS231n. Convolutional Neural Network for Visual Recognition. Diakses pada 23 Desember 2020, dari <http://cs231n.github.io/convolutional-networks/>.
- Duong, L. T., Nguyen, P. T., Sipio, C. Di, & Ruscio, D. Di. (2020). Automated fruit recognition using EfficientNet and MixNet. *Computers and Electronics in Agriculture*, 171(January), 105326. <https://doi.org/10.1016/j.compag.2020.105326>
- Google Developers, 2021. Catatan rilis Android Studioh. diakses pada 21 Agustus 2021. <https://developer.android.com/studio/releases/#4.1-tensor-flow-lite-models/>
- Gomez, Raul. (2018). *Understanding Categorical Cross-Entropy Loss, Binary Cross-Entropy Loss, Softmax Loss, Logistic Loss, Focal Loss and all those confusing names*. Diakses pada 12 Februari 2021, dari https://gombru.github.io/2018/05/23/cross_entropy_loss/.

- Hubel, D. & Wiesel, T. (1968). *Receptive Fields and Functional architecture of monkey striate cortex*. *Journal of Physiology (London)*, 195, 215-243.
- M. Jawal Anwarudin S., Apri L. Sayekti, Aditia Marendra K., Yusdar Hilman, 2015. *Dinamika Produksi dan Volatilitas Harga Cabai: Antisipasi Strategi dan Kebijakan Pengembangan*.
- Machine Learning Mobile App (2021). Diakses pada 20 Agustus 2021. <https://developers.google.com/learn/topics/on-device-ml#build-your-first-on-device-ml-app>
- Mohajon, J. (2020). *Confusion Matrix for Your Multi-Class Classification Machine Learning Model*. Diakses pada 12 Februari 2021, dari <https://towardsdatascience.com/confusion-matrix-for-your-multi-class-machine-learning-model-ff9aa3bf7826>
- Muliana, Vina A. 2017. 8 Negara Produsen Cabai Terbesar di Dunia, RI Termasuk?. <https://www.liputan6.com/bisnis/read/2819761/8-negara-produsen-cabai-terbesar-di-dunia-ri-termasuk>. diakses pada 13 April 2018
- Patel, S. & Pingel, J. (2017). *Introduction to Deep Learning*. Diakses pada 23 Desember 2020, dari <https://www.mathworks.com/videos/introduction-to-deep-learning-what-are-convolutional-neural-networks--1489512765771.html>
- Sena, Samuel. (2018). *Pengenalan Deep Learning: Neural Network*. Diakses pada 26 Desember 2020, dari <https://medium.com/@samuelsena/pengenalan-deeplearning-8fbb7d8028ac>

Srivastava, N., Hinton, G, & Krizhevsky, A. (2014). *Dropout: A Simple Way to Prevent Neural Network*. Journal Conference Learning Research, 1929- 1958.

Diakses pada tanggal

Tan, M., & Le, Q. V. (2019). EfficientNet: Rethinking model scaling for convolutional neural networks. 36th International Conference on Machine Learning, ICML 2019, 2019-June, 10691–10700. Diakses pada tanggal 20 September 2021

TensorFlow. (2021). Diakses pada 25 Juli 2021, dari https://www.tensorflow.org/api_docs/python/tf/keras/applications/efficientnet

TensorFlow Hub. (2021). Diakses pada 20 Agustus 2021 <https://tfhub.dev/s?deployment-format=lite&subtype=module,placeholder&tf-version=tf2&q=efficientnetTensorFlow>.

Wadrianto, Glori K. 2010. Kena Virus, Tanaman Cabai Gagal Panen. <https://regional.kompas.com/read/2010/07/20/18164737/Kena.Virus..Tanaman.Cabai.Gagal.Panen>. Diakses pada 13 April 2018.

Wayan Dadang, 2018. *Pengaplikasian Deep Learning*. Jakarta. Diakses pada tanggal 20 Juli 2021

LAMPIRAN

1. Dataset

Link dataset penelitian dapat diakses pada link berikut ini www.kaggle.com/ahmadkurniawansyarif/chillis-leaf-white-background-cropped

2. Proses Training dan Validasi

Epoch 1/30
18/18 [=====] - 41s 2s/step - loss: 1.1112
- accuracy: 0.4667 - val_loss: 0.9580 - val_accuracy: 0.6333
Epoch 2/30
18/18 [=====] - 12s 675ms/step - loss:
0.9608 - accuracy: 0.5944 - val_loss: 0.8695 - val_accuracy: 0.7000
Epoch 3/30
18/18 [=====] - 12s 671ms/step - loss:
0.8917 - accuracy: 0.6778 - val_loss: 0.8072 - val_accuracy: 0.7667
Epoch 4/30
18/18 [=====] - 12s 666ms/step - loss:
0.8678 - accuracy: 0.6944 - val_loss: 0.7587 - val_accuracy: 0.8000
Epoch 5/30
18/18 [=====] - 12s 672ms/step - loss:
0.8000 - accuracy: 0.7944 - val_loss: 0.7150 - val_accuracy: 0.8500
Epoch 6/30
18/18 [=====] - 12s 666ms/step - loss:
0.7752 - accuracy: 0.7722 - val_loss: 0.6769 - val_accuracy: 0.8833
Epoch 7/30
18/18 [=====] - 12s 673ms/step - loss:
0.7055 - accuracy: 0.8444 - val_loss: 0.6464 - val_accuracy: 0.8833
Epoch 8/30
18/18 [=====] - 12s 664ms/step - loss:
0.6907 - accuracy: 0.8611 - val_loss: 0.6205 - val_accuracy: 0.9000
Epoch 9/30
18/18 [=====] - 12s 667ms/step - loss:
0.6583 - accuracy: 0.8444 - val_loss: 0.5995 - val_accuracy: 0.9000
Epoch 10/30
18/18 [=====] - 12s 672ms/step - loss:
0.6046 - accuracy: 0.9222 - val_loss: 0.5790 - val_accuracy: 0.9167
Epoch 11/30
18/18 [=====] - 12s 673ms/step - loss:
0.6239 - accuracy: 0.8889 - val_loss: 0.5622 - val_accuracy: 0.9167
Epoch 12/30

18/18 [=====] - 12s 665ms/step - loss:
0.5934 - accuracy: 0.8889 - val_loss: 0.5472 - val_accuracy: 0.9167
Epoch 13/30
18/18 [=====] - 12s 671ms/step - loss:
0.5715 - accuracy: 0.9111 - val_loss: 0.5340 - val_accuracy: 0.9167
Epoch 14/30
18/18 [=====] - 12s 668ms/step - loss:
0.5804 - accuracy: 0.9000 - val_loss: 0.5231 - val_accuracy: 0.9167
Epoch 15/30
18/18 [=====] - 12s 669ms/step - loss:
0.5727 - accuracy: 0.9056 - val_loss: 0.5124 - val_accuracy: 0.9333
Epoch 16/30
18/18 [=====] - 12s 669ms/step - loss:
0.5306 - accuracy: 0.9444 - val_loss: 0.5030 - val_accuracy: 0.9333
Epoch 17/30
18/18 [=====] - 12s 666ms/step - loss:
0.5266 - accuracy: 0.9556 - val_loss: 0.4932 - val_accuracy: 0.9500
Epoch 18/30
18/18 [=====] - 12s 665ms/step - loss:
0.5498 - accuracy: 0.9167 - val_loss: 0.4850 - val_accuracy: 0.9500
Epoch 19/30
18/18 [=====] - 12s 664ms/step - loss:
0.5204 - accuracy: 0.9167 - val_loss: 0.4769 - val_accuracy: 0.9500
Epoch 20/30
18/18 [=====] - 12s 672ms/step - loss:
0.5119 - accuracy: 0.9222 - val_loss: 0.4712 - val_accuracy: 0.9500
Epoch 21/30
18/18 [=====] - 12s 674ms/step - loss:
0.5100 - accuracy: 0.9389 - val_loss: 0.4650 - val_accuracy: 0.9500
Epoch 22/30
18/18 [=====] - 12s 670ms/step - loss:
0.4799 - accuracy: 0.9500 - val_loss: 0.4601 - val_accuracy: 0.9500
Epoch 23/30
18/18 [=====] - 12s 676ms/step - loss:
0.4755 - accuracy: 0.9500 - val_loss: 0.4556 - val_accuracy: 0.9500
Epoch 24/30
18/18 [=====] - 12s 668ms/step - loss:
0.4740 - accuracy: 0.9389 - val_loss: 0.4514 - val_accuracy: 0.9500
Epoch 25/30
18/18 [=====] - 12s 669ms/step - loss:
0.5064 - accuracy: 0.8944 - val_loss: 0.4469 - val_accuracy: 0.9500
Epoch 26/30
18/18 [=====] - 12s 669ms/step - loss:
0.4742 - accuracy: 0.9611 - val_loss: 0.4442 - val_accuracy: 0.9500
Epoch 27/30

18/18 [=====] - 12s 664ms/step - loss:
0.4761 - accuracy: 0.9222 - val_loss: 0.4407 - val_accuracy: 0.9500

Epoch 28/30

18/18 [=====] - 12s 668ms/step - loss:
0.4466 - accuracy: 0.9667 - val_loss: 0.4374 - val_accuracy: 0.9500

Epoch 29/30

18/18 [=====] - 12s 674ms/step - loss:
0.4560 - accuracy: 0.9444 - val_loss: 0.4339 - val_accuracy: 0.9500

Epoch 30/30

18/18 [=====] - 12s 674ms/step - loss:
0.4855 - accuracy: 0.9222 - val_loss: 0.4304 - val_accuracy: 0.9500

Time: 0:08:54.171741

LEMBAR PERBAIKAN SKRIPSI





**“SISTEM KLASIFIKASI PENYAKIT TANAMAN CABAI
MENGUNAKAN METODE DEEP LEARNING DENGAN LIBRARY
TENSORFLOW LITE”**

OLEH:


**AHMAD KURNIAWAN SYARIF
D421 14 518**

Skripsi ini telah dipertahankan pada Ujian Akhir Sarjana tanggal 14 Oktober 2021.
Telah dilakukan perbaikan penulisan dan isi skripsi berdasarkan usulan dari penguji
dan pembimbing skripsi.

Persetujuan perbaikan oleh tim penguji:

	Nama	Tanda Tangan
Ketua	Dr.Indrabayu, ST., M.T., M.Bus.Sys.	
Sekretaris	Dr.Eng. Intan Sari Areni, ST., M.T	
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Persetujuan perbaikan oleh pembimbing:

Pembimbing	Nama	Tanda Tangan
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