

BAB VI.

PENUTUP

6.1.Kesimpulan

Berdasarkan hasil analisis, pembahasan, dan pengujian, dapat disimpulkan bahwa sistem yang dibangun berhasil mengimplementasikan *Deep Learning* menggunakan *Convolutional Neural Network* (CNN) dengan menggunakan arsitektur MobileNetV2 untuk mengidentifikasi jenis-jenis bunga. Selain itu, sistem juga berhasil dibangun dalam bentuk aplikasi *mobile* berbasis iOS yang dapat mengidentifikasi jenis-jenis bunga.

6.2.Saran

Beberapa saran yang dapat diberikan penulis untuk penelitian dan pembangunan sistem selanjutnya adalah sebagai berikut:

1. Dataset dapat dibuat terhubung dengan internet agar dapat memungkinkan dilakukannya pembaharuan dataset. Supaya jika ada data bunga baru, sistem dapat menerima data tersebut untuk klasifikasi.

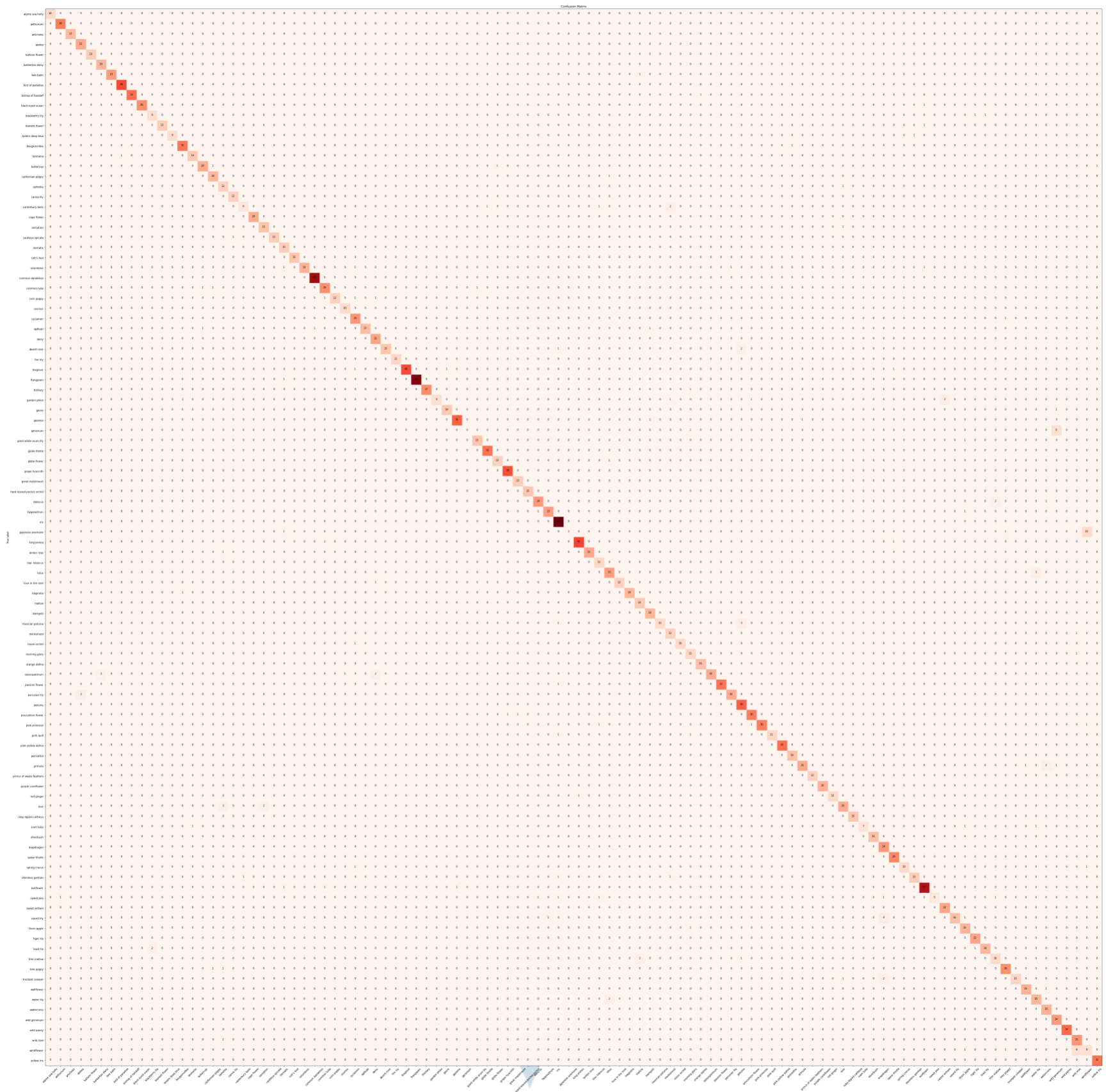
DAFTAR PUSTAKA

- [1] A. Antonelli *et al.*, “State of the World’s Plants and Fungi 2020,” p. 100, 2020, doi: doi.org/10.34885/172.
- [2] D. S. J. D. Prince, “Computer Vision: Models, Learning, and Inference,” *Lancet Neurol.*, vol. 12, no. 4, p. 335, 2013, [Online]. Available: <http://linkinghub.elsevier.com/retrieve/pii/S1474442213700644>.
- [3] S. Haykin, *Neural Networks and Learning Machines*, vol. 3. Pearson Education, 2008.
- [4] Y. Devianto and S. Dwiasnati, “Kerangka Kerja Sistem Kecerdasan Buatan dalam Meningkatkan Kompetensi Sumber Daya Manusia Indonesia,” *J. Telekomun. dan Komput.*, vol. 10, no. 1, p. 19, 2020, doi: 10.22441/incomtech.v10i1.7460.
- [5] J. W. G. Putra, “Pengenalan Konsep Pembelajaran Mesin dan Deep Learning,” vol. 4, pp. 1–235, 2019.
- [6] J. M. Reinaldo, “Klasifikasi kanker kulit melanoma menggunakan support vector machine (svm) laporan skripsi,” 2020.
- [7] A. Saputra, “Klasifikasi Pengenalan Buah Menggunakan Algoritma Naive Baiyes,” *J. Resist. (Rekayasa Sist. Komputer)*, vol. 2, no. 2, pp. 83–88, 2019, doi: 10.31598/jurnalresistor.v2i2.434.
- [8] P. Pola, K. Plat, N. Kendaraan, and D. Avianto, “Menggunakan Algoritma Momentum Backpropagation Neural Network,” *J. Inform.*, vol. 10, no. 1, pp. 1199–1209, 2016.
- [9] A. Santoso and G. Ariyanto, “Implementasi Deep Learning Berbasis Keras Untuk Pengenalan Wajah,” *Emit. J. Tek. Elektro*, vol. 18, no. 01, pp. 15–21, 2018, doi: 10.23917/emit.v18i01.6235.
- [10] K. P. Danukusumo, Pranowo, and M. Maslim, “Indonesia ancient temple classification using convolutional neural network,” in *ICCREC 2017 - 2017 International Conference on Control, Electronics, Renewable Energy, and Communications, Proceedings*, 2017, vol. 2017-Janua, pp. 50–54, doi: 10.1109/ICCREC.2017.8226709.

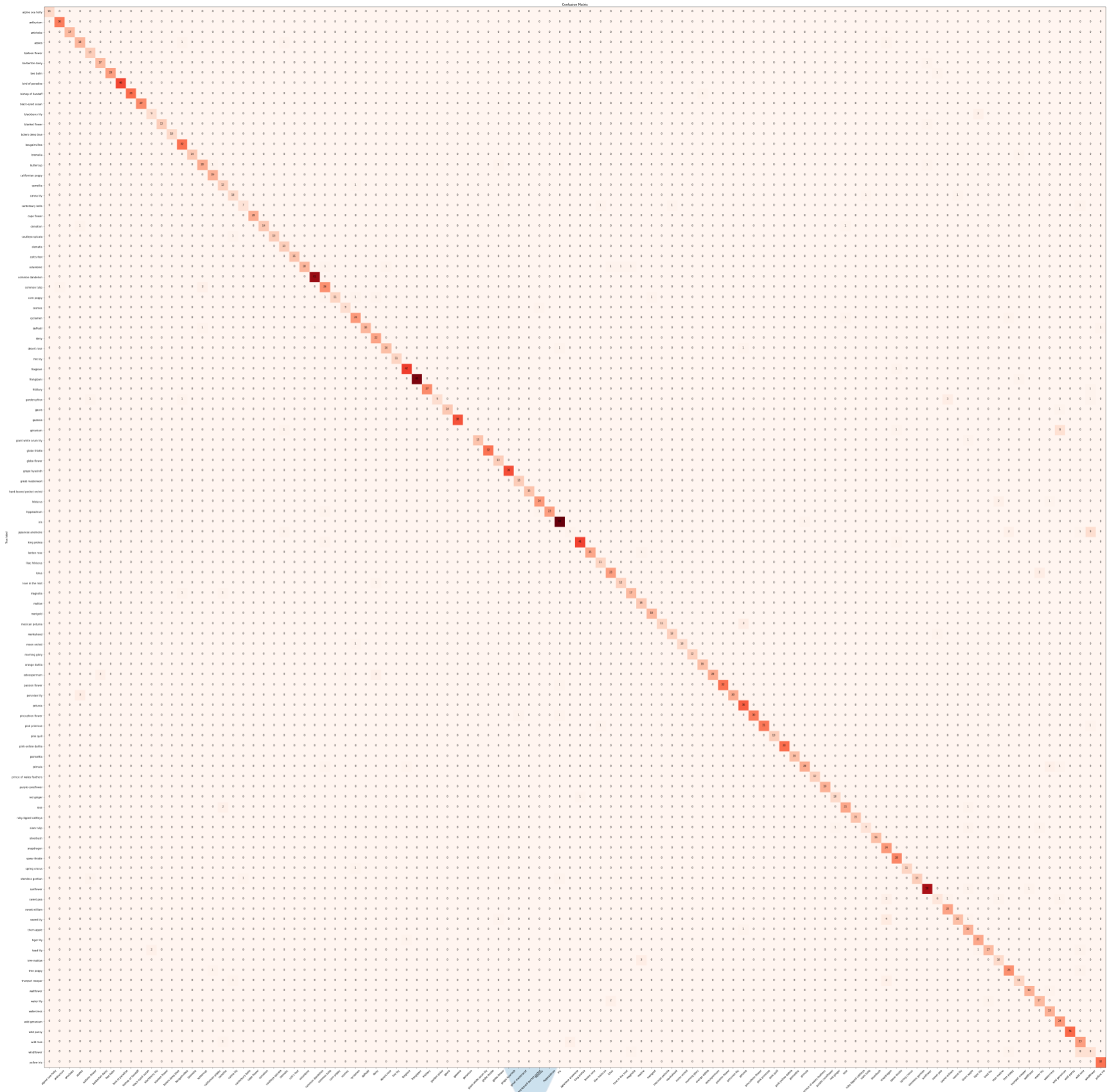
- [11] Y. HARJOSEPUTRO, "Convolutional Neural Network (Cnn) Untuk Pengklasifikasian Aksara Jawa," *Buana Inform.*, p. 23, 2018.
- [12] M. A. H. Abas, N. Ismail, A. I. M. Yassin, and M. N. Taib, "VGG16 for plant image classification with transfer learning and data augmentation," *Int. J. Eng. Technol.*, vol. 7, no. 4, pp. 90–94, 2018, doi: 10.14419/ijet.v7i4.11.20781.
- [13] C. G. O. Lana, "PENGEMBANGAN APLIKASI MOBILE UNTUK MENGIDENTIFIKASI SPESIES TANAMAN OBAT MENGGUNAKAN METODE CONVOLUTIONAL NEURAL NETWORK," 2020.
- [14] K. S. KHANIFATI, "DETEKSI PNEUMONIA DENGAN METODE CONVOLUTIONAL NEURAL NETWORK (CNN)," no. April, 2019.
- [15] T. J. Brinker *et al.*, "A convolutional neural network trained with dermoscopic images performed on par with 145 dermatologists in a clinical melanoma image classification task," *Eur. J. Cancer*, 2019, doi: 10.1016/j.ejca.2019.02.005.
- [16] I. S. Hanggara, "PENDETEKSIAN SAMPAH PERAIRAN SECARA OTOMATIS DENGAN MENGGUNAKAN METODE CONVOLUTIONAL NEURAL NETWORK (CNN)," 2019.
- [17] J. L. Setiani, "IMPLEMENTASI CONVOLUTIONAL NEURAL NETWORK DENGAN ARSITEKTUR RESNET50 UNTUK IDENTIFIKASI JENIS SAMPAH PLASTIK," 2020.
- [18] M. E. Nilsback and A. Zisserman, "Automated flower classification over a large number of classes," *Proc. - 6th Indian Conf. Comput. Vision, Graph. Image Process. ICVGIP 2008*, pp. 722–729, 2008, doi: 10.1109/ICVGIP.2008.47.
- [19] A. Gurnani, V. Mavani, V. Gajjar, and Y. Khandhediya, "Flower categorization using deep convolutional neural networks," *arXiv*, pp. 2–5, 2017.
- [20] H. Almogdady, S. Manaseer, and H. Hiary, "A flower recognition system based on image processing and neural networks," *Int. J. Sci. Technol. Res.*, vol. 7, no. 11, pp. 166–173, 2018.

- [21] M. V.D. Prasad *et al.*, “An efficient classification of flower images with convolutional neural networks,” *Int. J. Eng. Technol.*, vol. 7, no. 1.1, pp. 384–391, 2018, doi: 10.14419/ijet.v7i1.1.9857.
- [22] V. Sze, Y. H. Chen, T. J. Yang, and J. S. Emer, “Efficient Processing of Deep Neural Networks: A Tutorial and Survey,” *Proc. IEEE*, vol. 105, no. 12, pp. 2295–2329, 2017, doi: 10.1109/JPROC.2017.2761740.
- [23] A. Voulodimos, N. Doulamis, A. Doulamis, and E. Protopapadakis, “Deep Learning for Computer Vision: A Brief Review,” *Comput. Intell. Neurosci.*, vol. 2018, 2018, doi: 10.1155/2018/7068349.
- [24] G. Prediction, P. Miguel, and L. M. Zingaretti, “A Guide on Deep Learning for Complex Trait,” *Genes (Basel)*, vol. 10, no. 553, p. 19, 2019, [Online]. Available: <http://arxiv.org/abs/1802.00810>.
- [25] Y. C. Tsai, J. H. Chen, and J. J. Wang, “Predict Forex Trend via Convolutional Neural Networks,” *J. Intell. Syst.*, vol. 29, no. 1, pp. 941–958, 2020, doi: 10.1515/jisys-2018-0074.
- [26] C. E. Nwankpa, W. Ijomah, A. Gachagan, and S. Marshall, “Activation functions: Comparison of trends in practice and research for deep learning,” *arXiv*, pp. 1–20, 2018.
- [27] M. D. Zeiler *et al.*, “On rectified linear units for speech processing,” *ICASSP, IEEE Int. Conf. Acoust. Speech Signal Process. - Proc.*, pp. 3517–3521, 2013, doi: 10.1109/ICASSP.2013.6638312.
- [28] B. A. Krizhevsky, I. Sutskever, and G. E. Hinton, “Communications of the ACM-2017-Krizhevsky-Hinton-ImageNet classification with deep convolutional neural networks.pdf,” 2012.
- [29] M. Sandler, A. Howard, M. Zhu, A. Zhmoginov, and L. C. Chen, “MobileNetV2: Inverted Residuals and Linear Bottlenecks,” 2018, doi: 10.1109/CVPR.2018.00474.

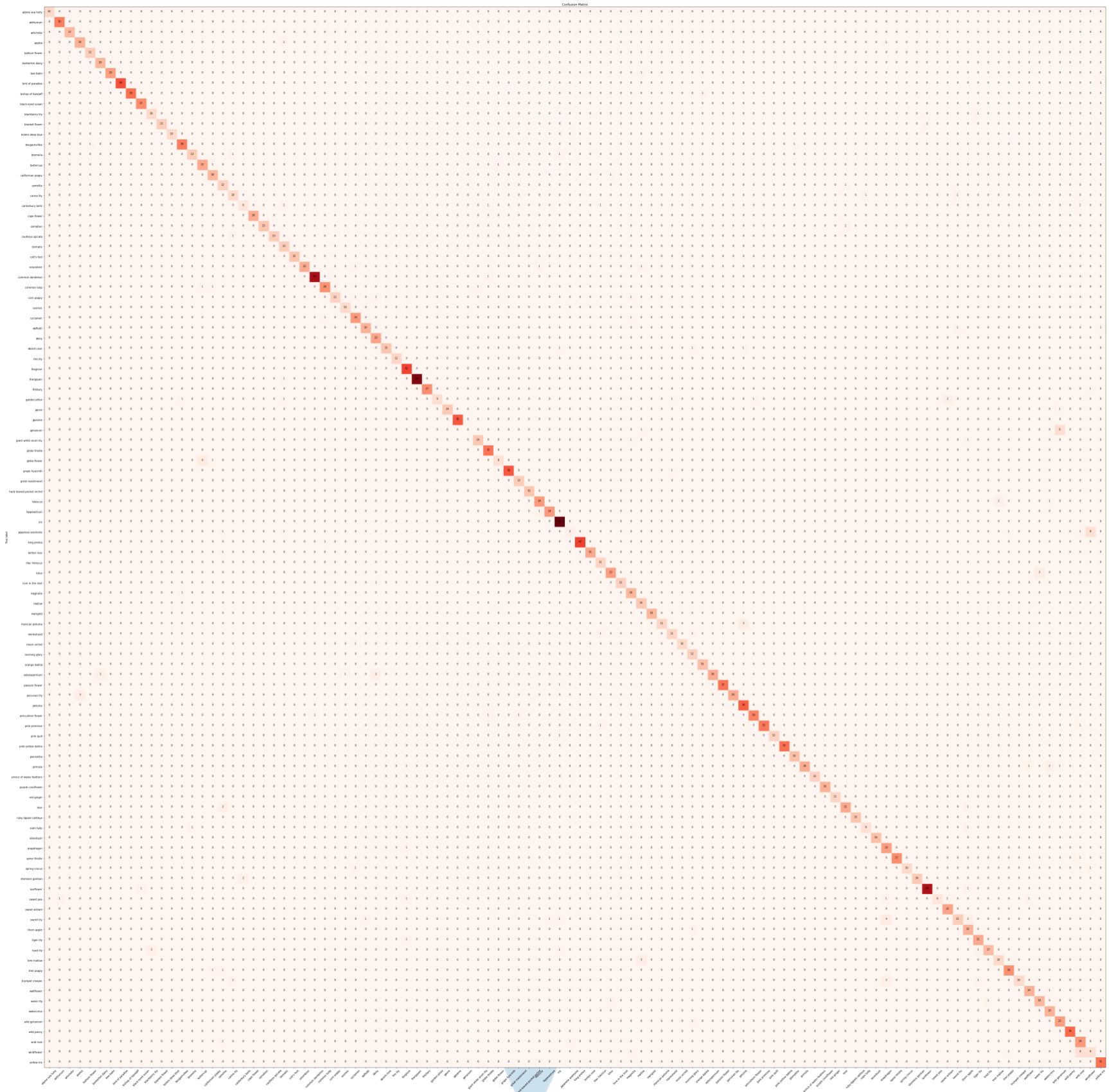
Lampiran



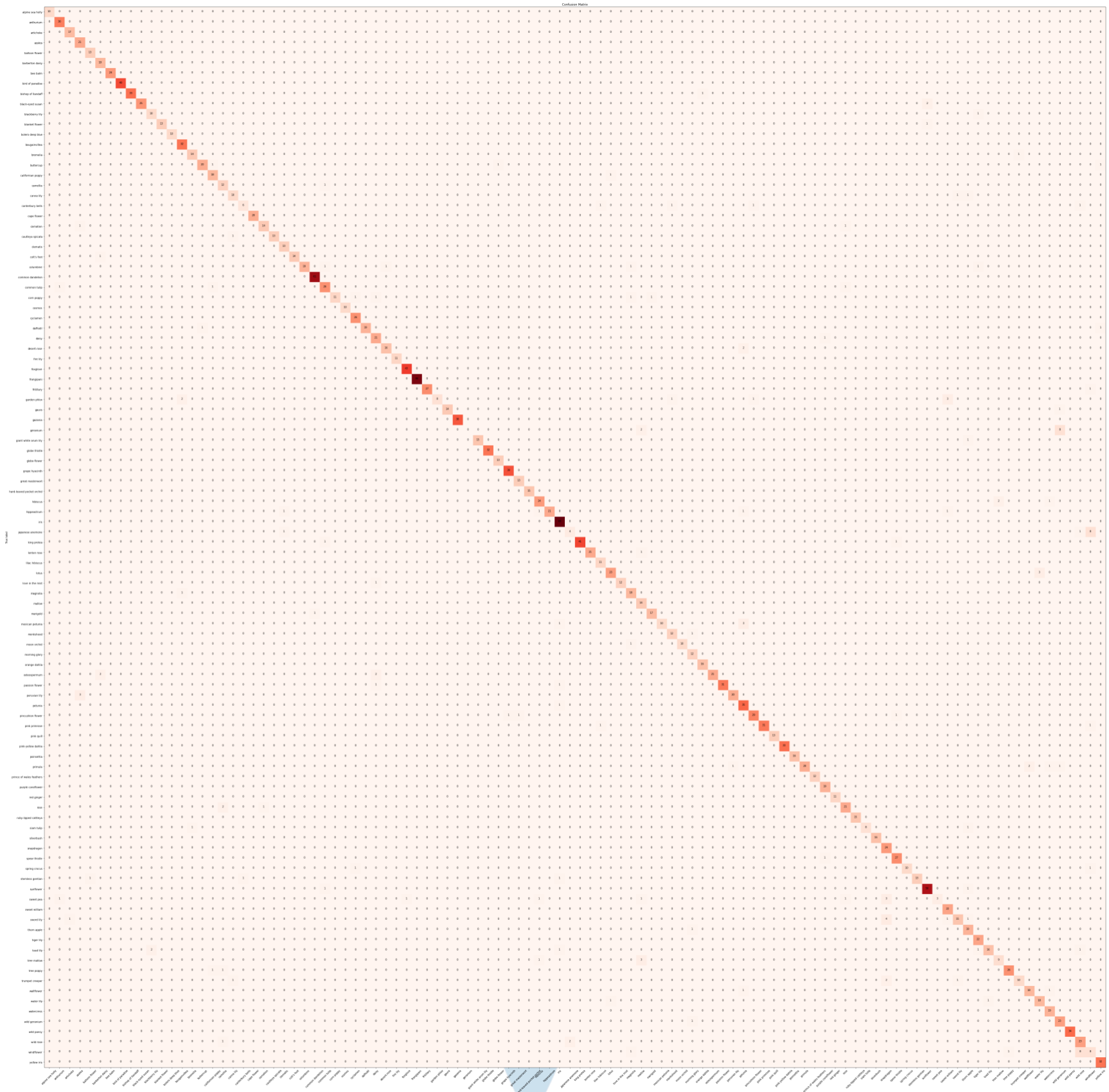
Gambar 1. Confusion Matrix Model 1



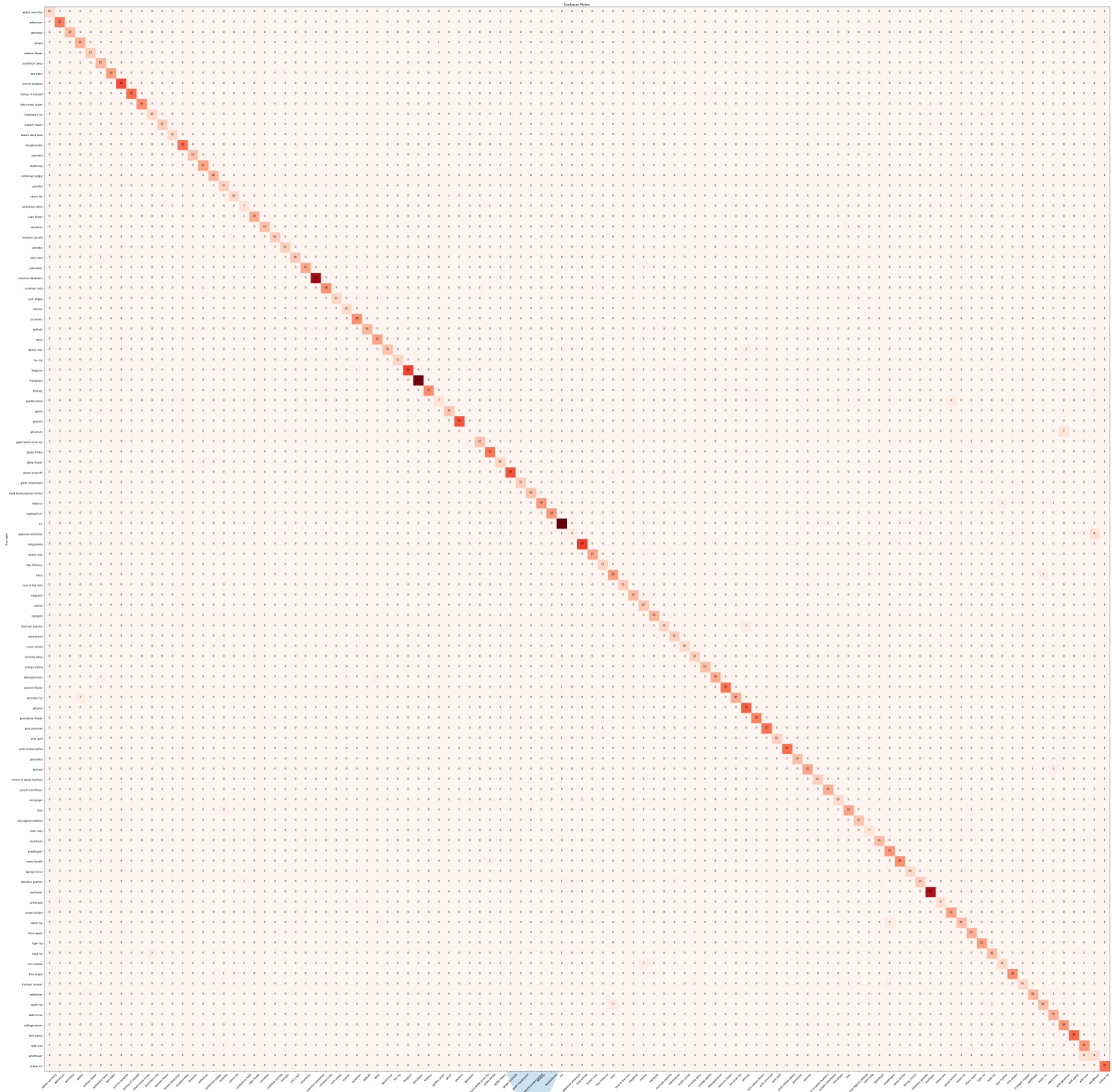
Gambar 2. Confusion Matrix Model 2



Gambar 3. Confusion Matrix Model 3



Gambar 4. Confusion Matrix Model 4



Gambar 5. Confusion Matrix Model 5

