**Describing Related Research**

**The** related research gave me great knowledge in the process. I have explored IEEE papers with the keywords Detection, Classification. Image processing and Segmentation in the plant diseases of soya and corn. I have got around 647 papers for Image processing for plant disease and 347 papers for segmentation. Out of I have gone through the following papers for research topic.

**Detection\ Image Processing of plant diseases:**

1. G. K. Sandhu and R. Kaur, "Plant Disease Detection Techniques: A Review," 2019 International Conference on Automation, Computational and Technology Management (ICACTM), 2019, pp. 34-38, doi: 10.1109/ICACTM.2019.8776827.
2. N. Gobalakrishnan, K. Pradeep, C. J. Raman, L. J. Ali and M. P. Gopinath, "A Systematic Review on Image Processing and Machine Learning Techniques for Detecting Plant Diseases," 2020 International Conference on Communication and Signal Processing (ICCSP), 2020, pp. 0465-0468, doi: 10.1109/ICCSP48568.2020.9182046.
3. X. Liu, W. Min, S. Mei, L. Wang and S. Jiang, "Plant Disease Recognition: A Large-Scale Benchmark Dataset and a Visual Region and Loss Reweighting Approach," in IEEE Transactions on Image Processing, vol. 30, pp. 2003-2015, 2021, doi: 10.1109/TIP.2021.3049334.
4. V. Singh, Varsha and A. K. Misra, "Detection of unhealthy region of plant leaves using image processing and genetic algorithm," 2015 International Conference on Advances in Computer Engineering and Applications, 2015, pp. 1028-1032, doi: 10.1109/ICACEA.2015.7164858.
5. N. Petrellis, "A smart phone image processing application for plant disease diagnosis," 2017 6th International Conference on Modern Circuits and Systems Technologies (MOCAST), 2017, pp. 1-4, doi: 10.1109/MOCAST.2017.7937683.
6. H. Wang, G. Li, Z. Ma and X. Li, "Image recognition of plant diseases based on backpropagation networks," 2012 5th International Congress on Image and Signal Processing, 2012, pp. 894-900, doi: 10.1109/CISP.2012.6469998.
7. C. G. Dhaware and K. H. Wanjale, "A modern approach for plant leaf disease classification which depends on leaf image processing," 2017 International Conference on Computer Communication and Informatics (ICCCI), 2017, pp. 1-4, doi: 10.1109/ICCCI.2017.8117733.
8. S. D. Khirade and A. B. Patil, "Plant Disease Detection Using Image Processing," 2015 International Conference on Computing Communication Control and Automation, 2015, pp. 768-771, doi: 10.1109/ICCUBEA.2015.153.
9. G. K. Sandhu and R. Kaur, "Plant Disease Detection Techniques: A Review," 2019 International Conference on Automation, Computational and Technology Management (ICACTM), 2019, pp. 34-38, doi: 10.1109/ICACTM.2019.8776827.
10. H. Ajra, M. K. Nahar, L. Sarkar and M. S. Islam, "Disease Detection of Plant Leaf using Image Processing and CNN with Preventive Measures," 2020 Emerging Technology in Computing, Communication and Electronics (ETCCE), 2020, pp. 1-6, doi: 10.1109/ETCCE51779.2020.9350890.
11. K. A. Reddy, N. V. M. C. Reddy and S. Sujatha., "Precision Method for Pest Detection in Plants using the Clustering Algorithm in Image Processing," 2020 International Conference on Communication and Signal Processing (ICCSP), 2020, pp. 894-897, doi: 10.1109/ICCSP48568.2020.9182190.
12. L. Li, S. Zhang and B. Wang, "Plant Disease Detection and Classification by Deep Learning—A Review," in IEEE Access, vol. 9, pp. 56683-56698, 2021, doi: 10.1109/ACCESS.2021.3069646.
13. U. B. Korkut, Ö. B. Göktürk and O. Yildiz, "Detection of plant diseases by machine learning," 2018 26th Signal Processing and Communications Applications Conference (SIU), 2018, pp. 1-4, doi: 10.1109/SIU.2018.8404692.
14. M. B. Ahmad Supian, H. Madzin and E. Albahari, "Plant Disease Detection and Classification Using Image Processing Techniques: a review," 2019 2nd International Conference on Applied Engineering (ICAE), 2019, pp. 1-4, doi: 10.1109/ICAE47758.2019.9221712.

**Segmentation:**

1. P. Ganesan, G. Sajiv and L. M. Leo, "CIELuv color space for identification and segmentation of disease affected plant leaves using fuzzy based approach," 2017 Third International Conference on Science Technology Engineering & Management (ICONSTEM), 2017, pp. 889-894, doi: 10.1109/ICONSTEM.2017.8261330.
2. P. K. Mugithe, R. V. Mudunuri, B. Rajasekar and S. Karthikeyan, "Image Processing Technique for Automatic Detection of Plant Diseases and Alerting System in Agricultural Farms," 2020 International Conference on Communication and Signal Processing (ICCSP), 2020, pp. 1603-1607, doi: 10.1109/ICCSP48568.2020.9182065.
3. M. A. Rahman, M. M. Islam, G. M. Shahir Mahdee and M. W. Ul Kabir, "Improved Segmentation Approach for Plant Disease Detection," 2019 1st International Conference on Advances in Science, Engineering and Robotics Technology (ICASERT), 2019, pp. 1-5, doi: 10.1109/ICASERT.2019.8934895.
4. R. K. Sarkar and A. Pramanik, "Segmentation of plant disease spots using automatic SRG algorithm: a look up table approach," 2015 International Conference on Advances in Computer Engineering and Applications, 2015, pp. 1-5, doi: 10.1109/ICACEA.2015.7194375.
5. J. Liao et al., "The Design and Implementation of Plant Disease Spot Segmentation Algorithm Based on Improved CV Model," 2019 2nd International Conference on Safety Produce Informatization (IICSPI), 2019, pp. 602-605, doi: 10.1109/IICSPI48186.2019.9095875.
6. N. Gobalakrishnan, K. Pradeep, C. J. Raman, L. J. Ali and M. P. Gopinath, "A Systematic Review on Image Processing and Machine Learning Techniques for Detecting Plant Diseases," 2020 International Conference on Communication and Signal Processing (ICCSP), 2020, pp. 0465-0468, doi: 10.1109/ICCSP48568.2020.9182046.