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(54) Title of the invention : EARLY DETECTION OF PLANT DISEASES THROUGH LEAF ANALYSIS: AN IOT AND MACHINE LEARNING APPROACH

<p>(51) International classification :G06Q0050020000, G16H0050200000, G06N0005000000, G06N0020000000, G06N0020200000</p> <p>(86) International Application No :NA Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : 1)Dr.RadhaMahendran Address of Applicant :Professor &Head, Bioinformatics Department, Vels Institute of Science Technology and Advanced Studies, Pallavaram, Chennai-117, Kanchipuram, Tamilnadu, India. ----- 2)Dr.Prem Kumar Gautam 3)Ms. G. Kalaarasi 4)Prof.(Dr.) Avadhesh Kumar Koshal 5)D.Viji 6)Dr Ananya Baidya 7)Yudhveer Singh Moudgil 8)Dr Karthikeyan M V 9)Dr.Ritika Mehra 10)Mrs.S.Kayathri 11)Anthony Savio Herminio da Piedade Fernandes 12)P Joel Josephson Name of Applicant : NA Address of Applicant : NA (72)Name of Inventor : 1)Dr.RadhaMahendran Address of Applicant :Professor &Head, Bioinformatics Department, Vels Institute of Science Technology and Advanced Studies, Pallavaram, Chennai-117, Kanchipuram, Tamilnadu, India. ----- 2)Dr.Prem Kumar Gautam Address of Applicant :Associate Professor and Head, Research And P.G. Department Of Botany, N.T.V.S'S G.T.Patil Arts, Commerce and Science College, Nandurbar 425 412, Maharashtra, India. ----- 3)Ms. G. Kalaarasi Address of Applicant :Assistant Professor, Department of Food Technology, Dhanalakshmi Srinivasan College of Engineering, Coimbatore - 641 105, Tamilnadu, India. ----- - 4)Prof.(Dr.) Avadhesh Kumar Koshal Address of Applicant :Professor, Faculty of Science, Motherhood University, Roorkee, Haridwar, Uttarakhand, India. ----- 5)D.Viji Address of Applicant :AP/Artificial Intelligence and Data Science, Erode Sengunthar Engineering College, Erode, pin- 638057, Tamilnadu, India. ----- 6)Dr Ananya Baidya Address of Applicant :Project Associate, Crop Production Division, ICAR-CRIJAF, Barrackpore, Kolkata -700121, North 24 Parganas, West Bengal, India. ----- 7)Yudhveer Singh Moudgil Address of Applicant :Assistant Professor/ Computer Science and Engineering, Dev Bhoomi Uttarakhand University, Dehradun, Uttarakhand,248007, India. ----- 8)Dr Karthikeyan M V Address of Applicant :Associate professor/ECE, St. Joseph's Institute of Technology, Chennai, Chengalpattu, Tamilnadu, India. ----- 9)Dr.Ritika Mehra Address of Applicant :Professor/ Computer Science and Engineering, Dev Bhoomi Uttarakhand University, Dehradun, Uttarakhand, 248007, India. ----- 10)Mrs.S.Kayathri Address of Applicant :Assistant Professor/MCA, M.Kumarasamy College of Engineering,Karur,639113, Tamilnadu, India. ----- 11)Anthony Savio Herminio da Piedade Fernandes Address of Applicant :Founder Owner, Trading Equations, 54/C, Xell, Bastora, Bardez, North Goa, Goa – 403507, India. ----- 12)P Joel Josephson Address of Applicant :Associate Professor/ ECE, Malla Reddy Engineering College, Secunderabad, 500100, Medchal Malkajiri, Telangana, India. -----</p>
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(57) Abstract :

EARLY DETECTION OF PLANT DISEASES THROUGH LEAF ANALYSIS: AN IOT AND MACHINE LEARNING APPROACH A method for the development of at the early detection of such diseases is one possibility for lowering plant mortality rates. Machine learning (ML), a type of artificial intelligence technology that allows researchers to enhance and develop without being explicitly programmed, is used in this study to build early prediction models for plant disease diagnosis. Due to the similarities of crops throughout the early phonological phases, crop classification has proved problematic. Plants are considered to be vital as they are the resource of energy provider to mankind. Leaves can be affected at any time between sowing and harvesting. It can lead to huge loss on the production of crop and economical value of market. Therefore, leaf disease recognition plays a vital role in agricultural field. But, it requires enormous manpower, huge processing time and extensive knowledge about plant diseases. The agricultural industry has experienced a decline in income in recent years due to the prevalence of bacterial, viral, and fungal infections. These pathogens give rise to diseases that progressively impact plants, leading to crop loss, diminished fruit quality, and plant mortality. FIG.1

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