

# Nondestructive detection of chilling injury in cucumber with feature selection and supervised classification

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Citation Report

#	ARTICLE	IF	CITATIONS
1	Black Heart Detection in White Radish by Hyperspectral Transmittance Imaging Combined with Chemometric Analysis and a Successive Projections Algorithm. <i>Applied Sciences (Switzerland)</i> , 2016, 6, 249.	1.3	16
2	Extraction of rice-planting area and identification of chilling damage by remote sensing technology: a case study of the emerging rice production region in high latitude. <i>Paddy and Water Environment</i> , 2017, 15, 181-191.	1.0	9
3	Hyperspectral imaging detection of decayed honey peaches based on their chlorophyll content. <i>Food Chemistry</i> , 2017, 235, 194-202.	4.2	66
4	Hyperspectral imaging with different illumination patterns for the hollowness classification of white radish. <i>Postharvest Biology and Technology</i> , 2017, 126, 40-49.	2.9	49
5	Non-destructive quality assessment of hensâ€™ eggs using hyperspectral images. <i>Journal of Food Engineering</i> , 2017, 215, 97-103.	2.7	68
6	Hyperspectral Imaging for Presymptomatic Detection of Tobacco Disease with Successive Projections Algorithm and Machine-learning Classifiers. <i>Scientific Reports</i> , 2017, 7, 4125.	1.6	119
7	Unsupervised feature selection with the largest angle coding. <i>International Journal of Computer Mathematics: Computer Systems Theory</i> , 2017, 2, 66-80.	0.7	1
8	Astringency assessment of persimmon by hyperspectral imaging. <i>Postharvest Biology and Technology</i> , 2017, 125, 35-41.	2.9	46
9	Hyperspectral reflectance imaging combined with chemometrics and successive projections algorithm for chilling injury classification in peaches. <i>LWT - Food Science and Technology</i> , 2017, 75, 557-564.	2.5	61
10	Early Detection of Aphid ( <i>Myzus persicae</i> ) Infestation on Chinese Cabbage by Hyperspectral Imaging and Feature Extraction. <i>Transactions of the ASABE</i> , 2017, 60, 1045-1051.	1.1	13
11	Chlorophyll Fluorescence Imaging Uncovers Photosynthetic Fingerprint of Citrus Huanglongbing. <i>Frontiers in Plant Science</i> , 2017, 8, 1509.	1.7	77
12	Innovative Hyperspectral Imaging-Based Techniques for Quality Evaluation of Fruits and Vegetables: A Review. <i>Applied Sciences (Switzerland)</i> , 2017, 7, 189.	1.3	73
13	Navel Orange Maturity Classification by Multispectral Indexes Based on Hyperspectral Diffuse Transmittance Imaging. <i>Journal of Food Quality</i> , 2017, 2017, 1-7.	1.4	10
14	Evaluation of Chilling Injury in Mangoes Using Multispectral Imaging. <i>Journal of Food Science</i> , 2018, 83, 1271-1279.	1.5	14
15	Plant-based edible coatings for managing postharvest quality of fresh horticultural produce: A review. <i>Food Packaging and Shelf Life</i> , 2018, 16, 157-167.	3.3	131
16	Identification of Bruise and Fungi Contamination in Strawberries Using Hyperspectral Imaging Technology and Multivariate Analysis. <i>Food Analytical Methods</i> , 2018, 11, 1518-1527.	1.3	49
17	Using laboratory-based hyperspectral imaging method to determine carbon functional group distributions in decomposing forest litterfall. <i>Catena</i> , 2018, 167, 18-27.	2.2	22
18	Smart storage technologies applied to fresh foods: A review. <i>Critical Reviews in Food Science and Nutrition</i> , 2018, 58, 2689-2699.	5.4	19

#	ARTICLE	IF	CITATIONS
19	Evaluating calibration methods for predicting soil available nutrients using hyperspectral VNIR data. <i>Soil and Tillage Research</i> , 2018, 175, 267-275.	2.6	43
20	Detecting decayed peach using a rotating hyperspectral imaging testbed. <i>LWT - Food Science and Technology</i> , 2018, 87, 326-332.	2.5	26
21	Comparison between artificial neural network and partial least squares regression models for hardness modeling during the ripening process of Swiss-type cheese using spectral profiles. <i>Journal of Food Engineering</i> , 2018, 219, 8-15.	2.7	53
22	Active learning algorithm can establish classifier of blueberry damage with very small training dataset using hyperspectral transmittance data. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2018, 172, 52-57.	1.8	15
23	Near-Infrared hyperspectral imaging for detection and quantification of azodicarbonamide in flour. <i>Journal of the Science of Food and Agriculture</i> , 2018, 98, 2793-2800.	1.7	9
24	Determination and Visualization of Different Levels of Deoxynivalenol in Bulk Wheat Kernels by Hyperspectral Imaging. <i>Journal of Applied Spectroscopy</i> , 2018, 85, 953-961.	0.3	22
25	A comprehensive review of fruit and vegetable classification techniques. <i>Image and Vision Computing</i> , 2018, 80, 24-44.	2.7	117
26	Utilization of Machine Vision to Monitor the Dynamic Responses of Rice Leaf Morphology and Colour to Nitrogen, Phosphorus, and Potassium Deficiencies. <i>Journal of Spectroscopy</i> , 2018, 2018, 1-13.	0.6	10
27	Challenges and solutions of optical-based nondestructive quality inspection for robotic fruit and vegetable grading systems: A technical review. <i>Trends in Food Science and Technology</i> , 2018, 81, 213-231.	7.8	82
28	Susceptibility and Expression of Chilling Injury. , 2018, , .		1
29	Deep Feature Representation with Stacked Sparse Auto-Encoder and Convolutional Neural Network for Hyperspectral Imaging-Based Detection of Cucumber Defects. <i>Transactions of the ASABE</i> , 2018, 61, 425-436.	1.1	33
30	Selection of Spectral Resolution and Scanning Speed for Detecting Green Jujubes Chilling Injury Based on Hyperspectral Reflectance Imaging. <i>Applied Sciences (Switzerland)</i> , 2018, 8, 523.	1.3	10
31	Non-destructive detection of Flos Lonicerae treated by sulfur fumigation based on hyperspectral imaging. <i>Journal of Food Measurement and Characterization</i> , 2018, 12, 2809-2818.	1.6	10
32	A review on the application of chromatographic methods, coupled to chemometrics, for food authentication. <i>Food Control</i> , 2018, 93, 165-182.	2.8	128
33	Nondestructive detection of maturity of watermelon by spectral characteristic using NIR diffuse transmittance technique. <i>Scientia Horticulturae</i> , 2019, 257, 108718.	1.7	24
34	Sensing fermentation degree of cocoa ( <i>Theobroma cacao</i> L.) beans by machine learning classification models based electronic nose system. <i>Journal of Food Process Engineering</i> , 2019, 42, e13175.	1.5	22
35	Combining near-infrared hyperspectral imaging with elemental and isotopic analysis to discriminate farm-raised pacific white shrimp from high-salinity and low-salinity environments. <i>Food Chemistry</i> , 2019, 299, 125121.	4.2	13
36	Optical sensing for early spring freeze related blueberry bud damage detection: Hyperspectral imaging for salient spectral wavelengths identification. <i>Computers and Electronics in Agriculture</i> , 2019, 167, 105025.	3.7	21

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37	Rapid Detection and Visualization of Mechanical Bruises on “Nanfeng” Mandarin Using the Hyperspectral Imaging Combined with ICA_LSQ Method. <i>Food Analytical Methods</i> , 2019, 12, 2025-2034.	1.3	10
38	Multivariate calibration of spectroscopic sensors for postharvest quality evaluation: A review. <i>Postharvest Biology and Technology</i> , 2019, 158, 110981.	2.9	98
39	Hyperspectral Reflectance Imaging Combined with Multivariate Analysis for Diagnosis of Sclerotinia Stem Rot on Arabidopsis Thaliana Leaves. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 2092.	1.3	5
40	Development of a smartphone application for assessment of chilling injuries in zucchini. <i>Biosystems Engineering</i> , 2019, 181, 114-127.	1.9	11
41	Selection of Optimal Hyperspectral Wavebands for Detection of Discolored, Diseased Rice Seeds. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 1027.	1.3	28
42	Measurements of lycopene contents in fruit: A review of recent developments in conventional and novel techniques. <i>Critical Reviews in Food Science and Nutrition</i> , 2019, 59, 758-769.	5.4	34
43	Current and future applications of statistical machine learning algorithms for agricultural machine vision systems. <i>Computers and Electronics in Agriculture</i> , 2019, 156, 585-605.	3.7	237
44	Automatic Fruit Classification Using Deep Learning for Industrial Applications. <i>IEEE Transactions on Industrial Informatics</i> , 2019, 15, 1027-1034.	7.2	203
45	Early detection of eggplant fruit stored at chilling temperature using different non-destructive optical techniques and supervised classification algorithms. <i>Postharvest Biology and Technology</i> , 2020, 159, 111001.	2.9	22
46	A De novo approach for automatic volume and mass estimation of fruits and vegetables. <i>Optik</i> , 2020, 200, 163443.	1.4	12
48	Early detection of chilling injury in green bell peppers by hyperspectral imaging and chemometrics. <i>Postharvest Biology and Technology</i> , 2020, 162, 111100.	2.9	34
49	Detection of early decay on citrus using hyperspectral transmittance imaging technology coupled with principal component analysis and improved watershed segmentation algorithms. <i>Postharvest Biology and Technology</i> , 2020, 161, 111071.	2.9	45
50	Standardisation of near infrared hyperspectral imaging for quantification and classification of DON contaminated wheat samples. <i>Food Control</i> , 2020, 111, 107074.	2.8	37
51	Shape induced reflectance correction for non-destructive determination and visualization of soluble solids content in winter jujubes using hyperspectral imaging in two different spectral ranges. <i>Postharvest Biology and Technology</i> , 2020, 161, 111080.	2.9	39
52	Rapid determination of pit mud moisture content using hyperspectral imaging. <i>Food Science and Nutrition</i> , 2020, 8, 179-189.	1.5	1
53	Hyperspectral imaging technology for quality and safety evaluation of horticultural products: A review and celebration of the past 20-year progress. <i>Postharvest Biology and Technology</i> , 2020, 170, 111318.	2.9	123
54	Raman spectroscopy coupled with chemometrics for food authentication: A review. <i>TrAC - Trends in Analytical Chemistry</i> , 2020, 131, 116017.	5.8	109
55	Using chemometrics to characterise and unravel the near infra-red spectral changes induced in aubergine fruit by chilling injury as influenced by storage time and temperature. <i>Biosystems Engineering</i> , 2020, 198, 137-146.	1.9	8

#	ARTICLE	IF	CITATIONS
56	Identification of Wheat Yellow Rust Using Spectral and Texture Features of Hyperspectral Images. <i>Remote Sensing</i> , 2020, 12, 1419.	1.8	66
57	Feijoa [ <i>Acca sellowiana</i> (Berg) Burret] accessions characterization and discrimination by chemometrics. <i>Journal of the Science of Food and Agriculture</i> , 2020, 100, 5373-5384.	1.7	9
58	Potential of Vis-NIR spectroscopy for detection of chilling injury in kiwifruit. <i>Postharvest Biology and Technology</i> , 2020, 164, 111160.	2.9	36
59	Online detection of apples with moldy core using the Vis/NIR full-transmittance spectra. <i>Postharvest Biology and Technology</i> , 2020, 168, 111269.	2.9	27
60	Graph Constraint and Collaborative Representation Classifier Steered Discriminative Projection with Applications for the Early Identification of Cucumber Diseases. <i>Sensors</i> , 2020, 20, 1217.	2.1	8
61	Chitosan oligosaccharides induced chilling resistance in cucumber fruit and associated stimulation of antioxidant and HSP gene expression. <i>Scientia Horticulturae</i> , 2020, 264, 109187.	1.7	21
62	Application of biospeckle laser imaging for early detection of chilling and freezing disorders in orange. <i>Postharvest Biology and Technology</i> , 2020, 162, 111118.	2.9	14
63	Partitioned Relief-F Method for Dimensionality Reduction of Hyperspectral Images. <i>Remote Sensing</i> , 2020, 12, 1104.	1.8	18
64	Standardising fresh produce selection and grading process for improving quality assurance in perishable food supply chains: an integrated Fuzzy AHP-TOPSIS framework. <i>Enterprise Information Systems</i> , 2021, 15, 651-675.	3.3	12
65	Comparison of a dual-laser and a Vis-NIR spectroscopy system for detection of chilling injury in kiwifruit. <i>Postharvest Biology and Technology</i> , 2021, 175, 111418.	2.9	9
66	Improved Prediction of Soluble Solid Content of Apple Using a Combination of Spectral and Textural Features of Hyperspectral Images. <i>Journal of Applied Spectroscopy</i> , 2021, 87, 1196-1205.	0.3	4
67	Quantitative evaluation of impact damage to apples using NIR hyperspectral imaging. <i>International Journal of Food Properties</i> , 2021, 24, 457-470.	1.3	16
68	Machine learning techniques for analysis of hyperspectral images to determine quality of food products: A review. <i>Current Research in Food Science</i> , 2021, 4, 28-44.	2.7	159
69	Wheat Yellow Rust Detection Using UAV-Based Hyperspectral Technology. <i>Remote Sensing</i> , 2021, 13, 123.	1.8	87
70	Nondestructive detection of low temperature induced stress on postharvest quality of kÅpia type sweet pepper. <i>Progress in Agricultural Engineering Sciences</i> , 2021, 16, 173-186.	0.5	4
71	Determination of sugar content in Lingwu jujube by NIR hyperspectral imaging. <i>Journal of Food Science</i> , 2021, 86, 1201-1214.	1.5	11
72	Rapid and noninvasive sensory analyses of food products by hyperspectral imaging: Recent application developments. <i>Trends in Food Science and Technology</i> , 2021, 111, 151-165.	7.8	81
73	Detection of Chilling Injury in Pickling Cucumbers Using Dual-Band Chlorophyll Fluorescence Imaging. <i>Foods</i> , 2021, 10, 1094.	1.9	7

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74	Application of Absorption and Scattering Properties Obtained through Image Pre-Classification Method Using a Laser Backscattering Imaging System to Detect Kiwifruit Chilling Injury. <i>Foods</i> , 2021, 10, 1446.	1.9	5
75	Identifying COVID-19 by using spectral analysis of cough recordings: a distinctive classification study. <i>Cognitive Neurodynamics</i> , 2022, 16, 239-253.	2.3	34
76	The use of digital imaging, chlorophyll fluorescence and Vis/NIR spectroscopy in assessing the ripening stage and freshness status of bell pepper fruit. <i>Computers and Electronics in Agriculture</i> , 2021, 187, 106265.	3.7	21
77	Maturity determination at harvest and spatial assessment of moisture content in okra using Vis-NIR hyperspectral imaging. <i>Postharvest Biology and Technology</i> , 2021, 180, 111597.	2.9	27
78	Detection of citrus black spot symptoms using spectral reflectance. <i>Postharvest Biology and Technology</i> , 2021, 180, 111627.	2.9	9
79	Detection of early decay on citrus using LW-NIR hyperspectral reflectance imaging coupled with two-band ratio and improved watershed segmentation algorithm. <i>Food Chemistry</i> , 2021, 360, 130077.	4.2	42
80	Physical and chemical properties of edamame during bean development and application of spectroscopy-based machine learning methods to predict optimal harvest time. <i>Food Chemistry</i> , 2022, 368, 130799.	4.2	12
81	A Review of Plant Phenotypic Image Recognition Technology Based on Deep Learning. <i>Electronics (Switzerland)</i> , 2021, 10, 81.	1.8	65
82	Mushroom Classification Using Feature-Based Machine Learning Approach. <i>Advances in Intelligent Systems and Computing</i> , 2020, , 197-206.	0.5	11
83	Pre-storage Application of L-arginine Alleviates Chilling Injury and Maintains Postharvest Quality of Cucumber ( <i>Cucumis sativus</i> ). <i>Journal of Horticultural Science &amp; Technology</i> , 2020, , 102-108.	0.3	6
84	In-field and non-invasive determination of internal quality and ripeness stages of Feicheng peach using a portable hyperspectral imager. <i>Biosystems Engineering</i> , 2021, 212, 115-125.	1.9	15
85	Patent prospects and trends in post-harvest management technology of fresh agricultural products. <i>Korean Journal of Food Preservation</i> , 2020, 27, 423-432.	0.2	1
86	Detection of Invisible Damage of Kiwi Fruit Based on Hyperspectral Technique. <i>Lecture Notes in Computer Science</i> , 2020, , 373-382.	1.0	0
87	Umbrella review on chilling injuries: Post-harvest issue, cause, and treatment in tomato. <i>Scientia Horticulturae</i> , 2022, 293, 110710.	1.7	14
88	Non-destructive Detection of Chilling-Injured Kiwifruit by a Dual Laser System. , 2020, , .		0
89	Non-Destructive Identification of Internal Watercore in Apples Based on Online Vis/NIR Spectroscopy. <i>Transactions of the ASABE</i> , 2020, 63, 1711-1721.	1.1	11
90	Cucumber powdery mildew detection using hyperspectral data. <i>Canadian Journal of Plant Science</i> , 2022, 102, 20-32.	0.3	7
91	Automation and digitization of agriculture using artificial intelligence and internet of things. <i>Artificial Intelligence in Agriculture</i> , 2021, 5, 278-291.	4.4	50

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92	Fast detection of water loss and hardness for cucumber using hyperspectral imaging technology. <i>Journal of Food Measurement and Characterization</i> , 2022, 16, 76-84.	1.6	11
93	Quality maintenance of broccoli by the use of 1-MCP treatments. <i>Progress in Agricultural Engineering Sciences</i> , 2020, 16, 95-103.	0.5	3
94	Emerging non-destructive imaging techniques for fruit damage detection: Image processing and analysis. <i>Trends in Food Science and Technology</i> , 2022, 120, 418-438.	7.8	54
95	The development of on-line surface defect detection system for jujubes based on hyperspectral images. <i>Computers and Electronics in Agriculture</i> , 2022, 194, 106743.	3.7	26
96	Spectral and image analysis of hyperspectral data for internal and external quality assessment of peach fruit. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2022, 272, 121016.	2.0	22
97	Joint Optimization of Autoencoder and Self-Supervised Classifier: Anomaly Detection of Strawberries Using Hyperspectral Imaging. <i>SSRN Electronic Journal</i> , 0, , .	0.4	1
98	Non-destructive detection of chilling injury in kiwifruit using a dual-laser scanning system with a principal component analysis - back propagation neural network. <i>Journal of Near Infrared Spectroscopy</i> , 2022, 30, 67-73.	0.8	3
99	Defect Detection in Fruit and Vegetables by Using Machine Vision Systems and Image Processing. <i>Food Engineering Reviews</i> , 2022, 14, 353-379.	3.1	16
100	A Hyperspectral Data 3D Convolutional Neural Network Classification Model for Diagnosis of Gray Mold Disease in Strawberry Leaves. <i>Frontiers in Plant Science</i> , 2022, 13, 837020.	1.7	10
101	Effect of variable selection algorithms on model performance for predicting moisture content in biological materials using spectral data. <i>Analytica Chimica Acta</i> , 2022, 1202, 339390.	2.6	28
102	Early diagnosis and pathogenesis monitoring of wheat powdery mildew caused by <i>blumeria graminis</i> using hyperspectral imaging. <i>Computers and Electronics in Agriculture</i> , 2022, 197, 106921.	3.7	15
103	Online Detection of Watercore Apples by Vis/NIR Full-Transmittance Spectroscopy Coupled with ANOVA Method. <i>Foods</i> , 2021, 10, 2983.	1.9	7
104	Machine Learning for Varietal Binary Classification of Soybean ( <i>Glycine max (L.) Merrill</i> ) Seeds Based on Shape and Size Attributes. <i>Food Analytical Methods</i> , 2022, 15, 2260-2273.	1.3	7
105	Application of Mung Bean Protein Separation and Purification Combined with Artificial Intelligence MLR Classifier Technology in the Study of Protein Physical and Chemical Properties. <i>Wireless Communications and Mobile Computing</i> , 2022, 2022, 1-13.	0.8	0
106	Joint optimization of autoencoder and Self-Supervised Classifier: Anomaly detection of strawberries using hyperspectral imaging. <i>Computers and Electronics in Agriculture</i> , 2022, 198, 107007.	3.7	17
107	Plant Genotype to Phenotype Prediction Using Machine Learning. <i>Frontiers in Genetics</i> , 2022, 13, .	1.1	21
108	The continuous wavelet projections algorithm: A practical spectral-feature-mining approach for crop detection. <i>Crop Journal</i> , 2022, 10, 1264-1273.	2.3	9
109	Vision-Based Fruit Recognition Via Multi-Scale Attention Cnn. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0

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110	Design and Implementation of Cloud Docker Application Architecture Based on Machine Learning in Container Management for Smart Manufacturing. <i>Applied Sciences (Switzerland)</i> , 2022, 12, 6737.	1.3	8
111	Detection of pears with moldy core using online full-transmittance spectroscopy combined with supervised classifier comparison and variable optimization. <i>Computers and Electronics in Agriculture</i> , 2022, 200, 107231.	3.7	7
112	Study on Qualitative Impact Damage of Loquats Using Hyperspectral Technology Coupled with Texture Features. <i>Foods</i> , 2022, 11, 2444.	1.9	6
113	Cucumber fruit skin reticulation affects post-harvest traits. <i>Postharvest Biology and Technology</i> , 2022, 194, 112071.	2.9	6
114	Application of hyperspectral imaging systems and artificial intelligence for quality assessment of fruit, vegetables and mushrooms: A review. <i>Biosystems Engineering</i> , 2022, 222, 156-176.	1.9	43
115	Deep learning based computer vision approaches for smart agricultural applications. <i>Artificial Intelligence in Agriculture</i> , 2022, 6, 211-229.	4.4	38
116	Using Machine Learning for Nutrient Content Detection of Aquaponics-Grown Plants Based on Spectral Data. <i>Sustainability</i> , 2022, 14, 12318.	1.6	4
117	Hyperspectral dimension reduction and navel orange surface disease defect classification using independent component analysis-genetic algorithm. <i>Frontiers in Nutrition</i> , 0, 9, .	1.6	0
118	Early identification of strawberry leaves disease utilizing hyperspectral imaging combing with spectral features, multiple vegetation indices and textural features. <i>Computers and Electronics in Agriculture</i> , 2023, 204, 107553.	3.7	22
119	Detection of bruised loquats based on reflectance, absorbance and Kubelka-Munk spectra. <i>Journal of Food Measurement and Characterization</i> , 0, , .	1.6	0
120	An Intelligent System for Cucumber Leaf Disease Diagnosis Based on the Tuned Convolutional Neural Network Algorithm. <i>Mobile Information Systems</i> , 2022, 2022, 1-16.	0.4	6
121	Optical Techniques for Fungal Disease Detection in Citrus Fruit: A Review. <i>Food and Bioprocess Technology</i> , 2023, 16, 1668-1689.	2.6	2
122	N- $\alpha$ -Lauroyl-L-arginine ethyl ester hydrochloride combined with hot water treatment alleviates chilling injury of postharvest cucumber fruit. <i>Scientia Horticulturae</i> , 2023, 315, 111986.	1.7	6
126	Enhancing resilience in agricultural production systems with AI-based technologies. <i>Environment, Development and Sustainability</i> , 0, , .	2.7	1
132	Hydrocarbon microseepage information extracting and oil-gas prospective area prediction based on landsat-8 remote sensing images. , 2023, , .		0
134	Imaging Techniques for Fresh Produce Damage detection. , 2023, , 45-68.		0
138	Computer Vision-Based Smart Monitoring and Control System for Crop. , 2024, , 65-82.		0