Automatic Metallic Surface Defect Detection and Recognition with Convolutional Neural Networks

Citation Report

#	ARTICLE	IF	CITATIONS
1	Vision-Based Surface Inspection System for Bearing Rollers Using Convolutional Neural Networks. Applied Sciences (Switzerland), 2018, 8, 2565.	1.3	28
2	Automatic Classification of Multiple Objects in Automotive Assembly Line. , 2019, , .		7
3	Vision-Based Autonomous Crack Detection of Concrete Structures Using a Fully Convolutional Encoder–Decoder Network. Sensors, 2019, 19, 4251.	2.1	78
4	Visual Inspection of the Aircraft Surface Using a Teleoperated Reconfigurable Climbing Robot and Enhanced Deep Learning Technique. International Journal of Aerospace Engineering, 2019, 2019, 1-14.	0.5	29
5	Surface Defect Detection using Hierarchical Features. , 2019, , .		4
6	An Affordable Fast Early Warning System for Edge Computing in Assembly Line. Applied Sciences (Switzerland), 2019, 9, 84.	1.3	34
7	A Generic Automated Surface Defect Detection Based on a Bilinear Model. Applied Sciences (Switzerland), 2019, 9, 3159.	1.3	32
8	Classifying Image Stacks of Specular Silicon Wafer Back Surface Regions: Performance Comparison of CNNs and SVMs. Sensors, 2019, 19, 2056.	2.1	6
9	Convolutional Neural Network Learning Versus Traditional Segmentation for the Approximation of the Degree of Defective Surface in Titanium for Implantable Medical Devices. Lecture Notes in Computer Science, 2019, , 871-882.	1.0	1
10	Incremental learning of concept drift in Multiple Instance Learning for industrial visual inspection. Computers in Industry, 2019, 109, 153-164.	5.7	11
11	Defect Segmentation of Hot-rolled Steel Strip Surface by using Convolutional Auto-Encoder and Conventional Image processing. , 2019, , .		33
12	Blister Defect Detection Based on Convolutional Neural Network for Polymer Lithium-Ion Battery. Applied Sciences (Switzerland), 2019, 9, 1085.	1.3	45
13	A mobile vision inspection system for tiny defect detection on smooth car-body surfaces based on deep ensemble learning. Measurement Science and Technology, 2019, 30, 125905.	1.4	33
14	Survey on semantic segmentation using deep learning techniques. Neurocomputing, 2019, 338, 321-348.	3.5	363
15	Charting the State-of-the-Art in the Application of Convolutional Neural Networks to Quality Control in Industry 4.0 and Smart Manufacturing. , 2019, , .		8
16	Texture CNN for Thermoelectric Metal Pipe Image Classification. , 2019, , .		4
17	Machine Learning approach for Defect Identification in Machinery parts. , 2019, , .		1
18	Intelligent Image-Based Railway Inspection System Using Deep Learning-Based Object Detection and Weber Contrast-Based Image Comparison. Sensors, 2019, 19, 4738.	2.1	21

#	ARTICLE	IF	CITATIONS
19	Automatic Defect Detection System Based on Deep Convolutional Neural Networks. , 2019, , .		11
20	A Review on Deep Learning Applications in Prognostics and Health Management. IEEE Access, 2019, 7, 162415-162438.	2.6	129
21	Weld Defect Detection Based on Deep Learning Method. , 2019, , .		45
22	Automated Identification of Wood Veneer Surface Defects Using Faster Region-Based Convolutional Neural Network with Data Augmentation and Transfer Learning. Applied Sciences (Switzerland), 2019, 9, 4898.	1.3	90
23	Image-based defect detection in lithium-ion battery electrode using convolutional neural networks. Journal of Intelligent Manufacturing, 2020, 31, 885-897.	4.4	90
24	Automated Visual Defect Detection for Flat Steel Surface: A Survey. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 626-644.	2.4	242
25	Automated detection of textured-surface defects using UNet-based semantic segmentation network. , 2020, , .		16
26	Anomaly detection in formed sheet metals using convolutional autoencoders. Procedia CIRP, 2020, 93, 1281-1285.	1.0	7
27	A Novel Inspection System For Variable Data Printing Using Deep Learning. , 2020, , .		4
28	Steel Surface Defect Classification Using Deep Residual Neural Network. Metals, 2020, 10, 846.	1.0	60
29	A Novel Compact Convolutional Neural Network for Real-Time Nondestructive Evaluation of Metallic Surfaces. IEEE Transactions on Instrumentation and Measurement, 2020, , 1-1.	2.4	4
30	Dual-Kernel-Based Aggregated Residual Network for Surface Defect Inspection in Injection Molding Processes. Applied Sciences (Switzerland), 2020, 10, 8171.	1.3	8
31	SurfNetv2: An Improved Real-Time SurfNet and Its Applications to Defect Recognition of Calcium Silicate Boards. Sensors, 2020, 20, 4356.	2.1	6
32	Main-Secondary Network for Defect Segmentation of Textured Surface Images. , 2020, , .		9
33	Improving Computer-Aided Cervical Cells Classification Using Transfer Learning Based Snapshot Ensemble. Applied Sciences (Switzerland), 2020, 10, 7292.	1.3	18
34	Nuclear Power Plants With Artificial Intelligence in Industry 4.0 Era: Top-Level Design and Current Applicationsâ€"A Systemic Review. IEEE Access, 2020, 8, 194315-194332.	2.6	33
35	An Image Quality Assessment Method for Surface Defect Inspection. , 2020, , .		1
36	Research Progress of Automated Visual Surface Defect Detection for Industrial Metal Planar Materials. Sensors, 2020, 20, 5136.	2.1	43

#	ARTICLE	IF	CITATIONS
37	Pixel-Wise Fabric Defect Detection by CNNs Without Labeled Training Data. IEEE Access, 2020, 8, 161317-161325.	2.6	20
38	NDTNet: Optical Nondestructive Evaluation with Compact Convolutional Neural Network. , 2020, , .		0
39	Spatially Variant Convolutional Autoencoder Based on Patch Division for Pill Defect Detection. IEEE Access, 2020, 8, 216781-216792.	2.6	2
40	Application of deep learning in defect Detection. Journal of Physics: Conference Series, 2020, 1684, 012030.	0.3	4
41	Visual Inspection System for Anomaly Detection on KTL Coatings Using Variational Autoencoders. Procedia CIRP, 2020, 93, 1558-1563.	1.0	10
42	Automated Visual Defect Classification for Flat Steel Surface: A Survey. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 9329-9349.	2.4	65
43	Automated defect inspection system for metal surfaces based on deep learning and data augmentation. Journal of Manufacturing Systems, 2020, 55, 317-324.	7.6	137
44	GSPSO-LRF-ELM: Grid Search and Particle Swarm Optimization-Based Local Receptive Field-Enabled Extreme Learning Machine for Surface Defects Detection and Classification on the Magnetic Tiles. Discrete Dynamics in Nature and Society, 2020, 2020, 1-10.	0.5	3
45	Mobile-Unet: An efficient convolutional neural network for fabric defect detection. Textile Reseach Journal, 2022, 92, 30-42.	1.1	121
46	An improved MobileNet-SSD algorithm for automatic defect detection on vehicle body paint. Multimedia Tools and Applications, 2020, 79, 23367-23385.	2.6	26
47	Visual Defect Inspection for Deep-Aperture Components With Coarse-to-Fine Contour Extraction. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 3262-3274.	2.4	8
48	Visual-Based Defect Detection and Classification Approaches for Industrial Applicationsâ€"A SURVEY. Sensors, 2020, 20, 1459.	2.1	182
49	A Steel Surface Defect Recognition Algorithm Based on Improved Deep Learning Network Model Using Feature Visualization and Quality Evaluation. IEEE Access, 2020, 8, 49885-49895.	2.6	35
50	A One-Stage Approach for Surface Anomaly Detection with Background Suppression Strategies. Sensors, 2020, 20, 1829.	2.1	14
51	Semantic segmentation in flaw detection. IOP Conference Series: Materials Science and Engineering, 2020, 862, 032056.	0.3	1
52	One-Shot Recognition of Manufacturing Defects in Steel Surfaces. Procedia Manufacturing, 2020, 48, 1064-1071.	1.9	37
53	A novel algorithm for defect extraction and classification of mobile phone screen based on machine vision. Computers and Industrial Engineering, 2020, 146, 106530.	3.4	37
54	Deep Regression Neural Network for Industrial Surface Defect Detection. IEEE Access, 2020, 8, 35583-35591.	2.6	29

#	ARTICLE	IF	CITATIONS
55	Apparatus and Method of Defect Detection for Resin Films. Applied Sciences (Switzerland), 2020, 10, 1206.	1.3	3
56	A Lightweight Appearance Quality Assessment System Based on Parallel Deep Learning for Painted Car Body. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 5298-5307.	2.4	14
57	Metal Additive Manufacturing Parts Inspection Using Convolutional Neural Network. Applied Sciences (Switzerland), 2020, 10, 545.	1.3	63
58	Bayesian deep learning: A model-based interpretable approach. Nonlinear Theory and Its Applications IEICE, 2020, 11, 16-35.	0.4	2
59	Object Detection and Classification of Metal Polishing Shaft Surface Defects Based on Convolutional Neural Network Deep Learning. Applied Sciences (Switzerland), 2020, 10, 87.	1.3	37
60	A learning-based approach for surface defect detection using small image datasets. Neurocomputing, 2020, 408, 112-120.	3.5	52
61	A Brief Survey on Semantic Segmentation with Deep Learning. Neurocomputing, 2020, 406, 302-321.	3.5	237
62	Color Based Image Processing Techniques to Detect Oxide Film during Welding. , 2020, , .		0
63	Detection of defects in voltage-dependent resistors using stacked-block-based convolutional neural networks. Visual Computer, 2021, 37, 1559-1567.	2.5	4
64	Deep Learning-Based Generic Automatic Surface Defect Inspection (ASDI) With Pixelwise Segmentation. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-10.	2.4	21
65	A Generative Adversarial Network Based Deep Learning Method for Low-Quality Defect Image Reconstruction and Recognition. IEEE Transactions on Industrial Informatics, 2021, 17, 3231-3240.	7.2	49
66	Surface defect detection of steel strips based on classification priority YOLOv3-dense network. Ironmaking and Steelmaking, 2021, 48, 547-558.	1.1	46
67	Image surface texture analysis and classification using deep learning. Multimedia Tools and Applications, 2021, 80, 1289-1309.	2.6	44
68	An End-to-End Defect Detection Method for Mobile Phone Light Guide Plate via Multitask Learning. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-13.	2.4	18
69	A Self-Supervised CNN for Particle Inspection on Optical Element. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-12.	2.4	7
70	Review: Application of Convolutional Neural Network in Defect Detection of 3C Products. IEEE Access, 2021, 9, 135657-135674.	2.6	14
71	TrustMAE: A Noise-Resilient Defect Classification Framework using Memory-Augmented Auto-Encoders with Trust Regions. , 2021, , .		31
72	ACRM: Attention Cascade R-CNN with Mix-NMS for Metallic Surface Defect Detection. , 2021, , .		2

#	ARTICLE	IF	CITATIONS
73	Surface Defect Recognition Classification Based on Multi-Scale Convolutional Neural Network. Advances in Intelligent Systems and Computing, 2021, , 1047-1054.	0.5	0
74	Deep Learning Based Automated Inspection of Weak Microscratches in Optical Fiber Connector End-Face. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-10.	2.4	12
75	Detection of Surface Defects in Ceramic Tiles With Complex Texture. IEEE Access, 2021, 9, 92788-92797.	2.6	12
76	A Lightweight Multiscale Attention Semantic Segmentation Algorithm for Detecting Laser Welding Defects on Safety Vent of Power Battery. IEEE Access, 2021, 9, 39245-39254.	2.6	19
77	Conductive Particle Detection for Chip on Glass Using Convolutional Neural Network. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-10.	2.4	9
78	A Multitask Learning-Based Neural Network for Defect Detection on Textured Surfaces Under Weak Supervision. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-14.	2.4	4
79	Reference-Based Defect Detection Network. IEEE Transactions on Image Processing, 2021, 30, 6637-6647.	6.0	20
80	Automated vision system for magnetic particle inspection of crankshafts using convolutional neural networks. International Journal of Advanced Manufacturing Technology, 2021, 112, 3307-3326.	1.5	19
81	Detection and Classification of Bearing Surface Defects Based on Machine Vision. Applied Sciences (Switzerland), 2021, 11, 1825.	1.3	7
82	Image-Based Surface Defect Detection Using Deep Learning: A Review. Journal of Computing and Information Science in Engineering, 2021, 21, .	1.7	95
83	Deep learning for industrial image: challenges, methods for enriching the sample space and restricting the hypothesis space, and possible issue. International Journal of Computer Integrated Manufacturing, 2022, 35, 1077-1106.	2.9	10
84	Convolutional Neural Network based Automatic Detection of Visible Faults in a Photovoltaic Module. Energy Sources, Part A: Recovery, Utilization and Environmental Effects, 0, , 1-16.	1.2	19
85	Complex Product Displaced and Missing Assembly Detection Based on Vision and Process Template. , 2021, , .		0
86	Unsupervised Machine Learning Via Transfer Learning and k-Means Clustering to Classify Materials Image Data. Integrating Materials and Manufacturing Innovation, 2021, 10, 231-244.	1.2	31
87	AI Landing for Sheet Metal-Based Drawer Box Defect Detection Using Deep Learning (ALDB-DL). Processes, 2021, 9, 768.	1.3	4
88	Quality prediction for aluminum diecasting process based on shallow neural network and data feature selection technique. CIRP Journal of Manufacturing Science and Technology, 2021, 33, 327-338.	2.3	11
89	Surface defect detection of cylindrical lithium-ion battery by multiscale image augmentation and classification. International Journal of Modern Physics B, 2021, 35, 2140011.	1.0	8
90	LEâ€"MSFEâ€"DDNet: a defect detection network based on low-light enhancement and multi-scale feature extraction. Visual Computer, 2022, 38, 3731-3745.	2.5	18

#	ARTICLE	IF	CITATIONS
92	Automated extraction and evaluation of fracture trace maps from rock tunnel face images via deep learning. International Journal of Rock Mechanics and Minings Sciences, 2021, 142, 104745.	2.6	71
93	Anomaly detection of power line insulator from aerial imagery with attribute self-supervised learning. International Journal of Remote Sensing, 2021, 42, 8819-8839.	1.3	8
94	Unsupervised defect inspection algorithm based on cascaded GAN with edge repair feature fusion. Applied Intelligence, 2022, 52, 2051-2069.	3.3	4
95	A Method for Classification of Surface Defect on Metal Workpieces Based on Twin Attention Mechanism Generative Adversarial Network. IEEE Sensors Journal, 2021, 21, 13430-13441.	2.4	15
96	Defect Detection of Grinded and Polished Workpieces Using Faster R-CNN. , 2021, , .		4
97	Fine-Tuning Convolutional Neural Network Based Railway Damage Detection. , 2021, , .		2
98	CNN-Based Defect Inspection for Injection Molding Using Edge Computing and Industrial IoT Systems. Applied Sciences (Switzerland), 2021, 11, 6378.	1.3	17
99	Defect detection in vehicle mirror nonplanar surfaces with multi-scale atrous single-shot detect mechanism. AIP Advances, 2021, 11, 075202.	0.6	3
100	Defect Detection of Metal Nuts Applying Convolutional Neural Networks. , 2021, , .		3
101	Lychee Surface Defect Detection Based on Deep Convolutional Neural Networks with GAN-Based Data Augmentation. Agronomy, 2021, 11, 1500.	1.3	32
102	A two-stage CNN for automated tire defect inspection in radiographic image. Measurement Science and Technology, 2021, 32, 115403.	1.4	19
103	Bearing Defect Detection with Unsupervised Neural Networks. Shock and Vibration, 2021, 2021, 1-11.	0.3	2
104	Parallel Dilated CNN for Detecting and Classifying Defects in Surface Steel Strips in Real-Time. Lecture Notes in Networks and Systems, 2022, , 168-183.	0.5	4
105	PSIC-Net: Pixel-Wise Segmentation and Image-Wise Classification Network for Surface Defects. Machines, 2021, 9, 221.	1.2	8
106	Demystifying MLOps and Presenting a Recipe for the Selection of Open-Source Tools. Applied Sciences (Switzerland), 2021, 11, 8861.	1.3	41
107	Adaptive vision inspection for multi-type electronic products based on prior knowledge. Journal of Industrial Information Integration, 2021, , 100283.	4.3	1
108	Intelligent embedded system for decision support in pulsed eddy current corrosion detection using Extreme Learning Machine. Measurement: Journal of the International Measurement Confederation, 2021, 185, 110069.	2.5	9
109	Hybrid Learning Driven by Dynamic Descriptors for Video Classification of Reflective Surfaces. IEEE Transactions on Industrial Informatics, 2021, 17, 8102-8111.	7.2	4

#	Article	IF	Citations
110	Rapid detection of highly reflective surface defects based on digital micromirror device. Optics Communications, 2021, 501, 127385.	1.0	5
111	Image Data Assessment Approach for Deep Learning-Based Metal Surface Defect-Detection Systems. IEEE Access, 2021, 9, 47621-47638.	2.6	14
112	SMD LED chips defect detection using a YOLOv3-dense model. Advanced Engineering Informatics, 2021, 47, 101255.	4.0	56
113	Robust defect detection in 2D images printed on 3D micro‑textured surfaces by multiple paired pixel consistency in orientation codes. IET Image Processing, 2020, 14, 3373-3384.	1.4	5
114	Deflectometric data segmentation for surface inspection: a fully convolutional neural network approach. Journal of Electronic Imaging, 2020, 29, 1.	0.5	5
115	Deflectometric data segmentation based on fully convolutional neural networks. , 2019, , .		4
116	Defect Detection on Rolling Element Surface Scans Using Neural Image Segmentation. Applied Sciences (Switzerland), 2020, 10, 3290.	1.3	21
117	Workpiece Surface Defect Detection Based on Prototype Network With Blur Pooling. , 2021, , .		0
118	Industrial object detection method based on improved CenterNet. , 2021, , .		4
119	Rail surface defect inspection via a self-reference template and similarity evaluation. Measurement Science and Technology, 2022, 33, 015401.	1.4	1
120	Analysis of the Possibilities of Tire-Defect Inspection Based on Unsupervised Learning and Deep Learning. Sensors, 2021, 21, 7073.	2.1	11
121	Fabric Defect Detection Based on Lightweight Neural Network. Lecture Notes in Computer Science, 2019, , 528-539.	1.0	11
122	Visual inspection for metallic surfaces: CNN driven by features. , 2019, , .		1
123	Automated vision system for crankshaft inspection using deep learning approaches. , 2019, , .		2
124	Polarimetric imaging for quality control in injection molding. , 2019, , .		1
125	Research on Classification of Surface Defects of Hot-rolled Steel Strip Based on Deep Learning. DEStech Transactions on Computer Science and Engineering, 2019, , .	0.1	7
126	Real-time Fabric Defect Detection based on Lightweight Convolutional Neural Network. , 2019, , .		2
127	Defect Detection of Production Surface Based on CNN. Lecture Notes in Computer Science, 2020, , 405-412.	1.0	0

#	Article	IF	Citations
128	Automatic Unsupervised Fabric Defect Detection Based on Self-Feature Comparison. Electronics (Switzerland), 2021, 10, 2652.	1.8	2
129	Deep Generative Model Using Unregularized Score for Anomaly Detection With Heterogeneous Complexity. IEEE Transactions on Cybernetics, 2022, 52, 5161-5173.	6.2	7
130	A Lightweight and Efficient Network for Logistics Truck Scene Semantic Segmentation. , 2020, , .		1
131	Semiautomatic Mask Generating for Electronics Component Inspection. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2020, 10, 2099-2105.	1.4	4
132	Multistep hybrid learning: CNN driven by spatialâ€"temporal features for faults detection on metallic surfaces. Journal of Electronic Imaging, 2020, 29, 1.	0.5	1
133	A Lightweight Fully Convolutional Neural Network of High Accuracy Surface Defect Detection. Lecture Notes in Computer Science, 2020, , 15-26.	1.0	4
134	Automatic Optical Inspection for Millimeter Scale Probe Surface Stripping Defects Using Convolutional Neural Network. Lecture Notes in Computer Science, 2020, , 360-369.	1.0	0
135	Classification using a three-dimensional sensor in a structured industrial environment. Journal of Electronic Imaging, 2020, 29, 1.	0.5	7
136	Zero-Defect Manufacturing using data-driven technologies to support the natural stone industry. , 2021, , .		3
137	Classification of the Surface Technological Defects in Rolled Metal Products with the Help of a Deep Neural Network. Materials Science, 2021, 56, 779-788.	0.3	1
138	On study of a method for detecting micro-deformation defects of steel plate surface. , 2020, , .		0
139	Generation and categorisation of surface texture data using a modified progressively growing adversarial network. Precision Engineering, 2022, 74, 1-11.	1.8	10
140	A Semi-Supervised Deep Learning Approach for the Classification of Steel Surface Defects. , 2021, , .		4
141	Classification of Imbalanced Data Using Deep Learning with Adding Noise. Journal of Sensors, 2021, 2021, 1-18.	0.6	3
142	Surface defects inspection of cylindrical metal workpieces based on weakly supervised learning. International Journal of Advanced Manufacturing Technology, 2022, 119, 1933-1949.	1.5	7
143	A Method of Defect Detection for Focal Hard Samples PCB Based on Extended FPN Model. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2022, 12, 217-227.	1.4	12
144	Automatic Rail Component Detection Based on AttnConv-Net. IEEE Sensors Journal, 2022, 22, 2379-2388.	2.4	6
145	Semantic Segmentation of Anaemic RBCs Using Multilevel Deep Convolutional Encoder-Decoder Network. IEEE Access, 2021, 9, 161326-161341.	2.6	2

#	ARTICLE	IF	CITATIONS
146	Edge Computing Accelerated Defect Classification Based on Deep Convolutional Neural Network With Application in Rolling Image Inspection. , 2020, , .		1
147	Deep Residual Neural Network-Based Defect Detection on Complex Backgrounds. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-10.	2.4	9
148	Surface defect detection of vehicle light guide plates based on an improved RetinaNet. Measurement Science and Technology, 2022, 33, 045401.	1.4	11
149	TAS^2-Net: Triple-Attention Semantic Segmentation Network for Small Surface Defect Detection. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-12.	2.4	8
150	Machine vision based fault diagnosis of photovoltaic modules using lazy learning approach. Measurement: Journal of the International Measurement Confederation, 2022, 191, 110786.	2.5	18
151	Towards high-performance deep learning models in tool wear classification with generative adversarial networks. Journal of Materials Processing Technology, 2022, 302, 117484.	3.1	6
152	Automated Shell Abrasion Detection for Cell Phone Based on GraphFPN With Learnable Sparse Priors. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-11.	2.4	0
153	Full-convolution Siamese network algorithm under deep learning used in tracking of facial video image in newborns. Journal of Supercomputing, 2022, 78, 14343-14361.	2.4	3
154	Adaptive image enhancement and dynamic-template-matching-based edge extraction method for diamond roller on-machine profile measurement. International Journal of Advanced Manufacturing Technology, 2022, 120, 5997-6010.	1.5	1
155	SCLâ€"Segmentationâ€"Classification combined Loss for surface defect detection. Expert Systems With Applications, 2022, 198, 116710.	4.4	9
156	A Deep Self-Attention Residual Convolutional Neural Network for Automatic Recognition of Aluminum Profile Surface Defects. , 2021, , .		0
157	Few-shot Steel Surface Defect Detection Based on Meta Learning. , 2021, , .		0
158	Image Self-Generation Based Defect Detection Method for Train Brake Pad. , 2021, , .		0
159	A convolutional neural network method for damage location based on raw guided Lamb wave technique. , 2021, , .		1
160	False Ceiling Deterioration Detection and Mapping Using a Deep Learning Framework and the Teleoperated Reconfigurable â€˜Falconâ€™ Robot. Sensors, 2022, 22, 262.	2.1	4
161	The anomaly segmentation via dynamic branch fusion. , 2021, , .		0
162	Printed Surface Defect Detection Model Based on Positive Samples. Computers, Materials and Continua, 2022, 72, 5925-5938.	1.5	5
163	Convolutional Neural Networks for Structural Damage Identification in Assembled Buildings. Mathematical Problems in Engineering, 2022, 2022, 1-11.	0.6	1

#	Article	IF	Citations
164	Defect Detection for Mechanical Design Products with Faster R-CNN Network. Mathematical Problems in Engineering, 2022, 2022, 1-11.	0.6	0
165	Research of U-Net-Based CNN Architectures for Metal Surface Defect Detection. Machines, 2022, 10, 327.	1.2	25
166	Detecting aluminium tube surface defects by using faster region-based convolutional neural networks. Journal of Computational Methods in Sciences and Engineering, 2022, , 1-10.	0.1	0
167	Contamination classification for pellet quality inspection using deep learning. Computers and Chemical Engineering, 2022, 163, 107836.	2.0	2
168	Enhancing crop productivity through autoencoder-based disease detection and context-aware remedy recommendation system. , 2022, , 239-262.		2
169	Wiper Arm Defect Detection Using Laplacian Pyramids and Genetic Algorithm. , 2022, , .		1
170	Real-Time Plastic Surface Defect Detection Using Deep Learning. , 2022, , .		5
171	Defects Recognition Algorithm Development from Visual UAV Inspections. Sensors, 2022, 22, 4682.	2.1	6
172	Online Detection of Fabric Defects Based on Improved CenterNet with Deformable Convolution. Sensors, 2022, 22, 4718.	2.1	6
173	Automatic defect detection of texture surface with an efficient texture removal network. Advanced Engineering Informatics, 2022, 53, 101672.	4.0	10
174	An Image-Based Data-Driven Model for Texture Inspection of Ground Workpieces. Sensors, 2022, 22, 5192.	2.1	1
175	ILCS: An Improved Lightweight Convolution Structure and Mixed Interactive Attention for Steel Surface Defect Classification. Computational Intelligence and Neuroscience, 2022, 2022, 1-11.	1.1	4
176	Saliency detection for surface defects of ceramic tile. Ceramics International, 2022, 48, 32113-32124.	2.3	1
177	A Four-Stage Product Appearance Defect Detection Method With Small Samples. IEEE Access, 2022, 10, 83740-83754.	2.6	4
178	A Systematic Review of Machine-Vision-Based Leather Surface Defect Inspection. Electronics (Switzerland), 2022, 11, 2383.	1.8	12
179	Automatic quality inspection in additive manufacturing using semi-supervised deep learning. Journal of Intelligent Manufacturing, 2023, 34, 3091-3108.	4.4	6
180	ACA-Net: An Adaptive Convolution and Anchor Network for Metallic Surface Defect Detection. Applied Sciences (Switzerland), 2022, 12, 8070.	1.3	3
181	MSANet: efficient detection of tire defects in radiographic images. Measurement Science and Technology, 2022, 33, 125401.	1.4	7

#	ARTICLE	IF	CITATIONS
182	Algorithm of Computer Mainboard Quality Detection for Real-Time Based on QD-YOLO. Electronics (Switzerland), 2022, 11, 2424.	1.8	1
183	CR-SPADet: Towards high level automatic surface defect inspection for aerospace sealing rings. Measurement: Journal of the International Measurement Confederation, 2022, 202, 111752.	2.5	0
184	Surface finish quality prediction of welded joints using convolutional neural networks. AIP Conference Proceedings, 2022, , .	0.3	0
185	Improved Electrical and Temporal Stability of In-Zn Oxide Semiconductor Thin-Film Transistors With Organic Passivation Layer. IEEE Journal of the Electron Devices Society, 2022, 10, 660-665.	1.2	6
186	Masked Swin Transformer Unet for Industrial Anomaly Detection. IEEE Transactions on Industrial Informatics, 2023, 19, 2200-2209.	7.2	21
187	An Enhanced YOLOv4 Model With Self-Dependent Attentive Fusion and Component Randomized Mosaic Augmentation for Metal Surface Defect Detection. IEEE Access, 2022, 10, 97758-97766.	2.6	6
188	The Defects Detection in Steel Coil End Face Based on SCED-Net. , 2022, , .		4
189	CNN-based Asymmetric Detection Method for Appearance Inspection. Journal of the Japan Society for Precision Engineering, 2022, 88, 703-710.	0.0	0
190	Self-supervised and Template-Enhanced Unknown-Defect Detection. Lecture Notes in Computer Science, 2022, , 745-757.	1.0	0
191	Surface Defect Detection of Aluminum Material based on Deep Learning. , 2022, , .		0
192	Review of surface defect detection of steel products based on machine vision. IET Image Processing, 2023, 17, 303-322.	1.4	30
193	Multi-dimensional feature extraction-based deep encoder–decoder network for automatic surface defect detection. Neural Computing and Applications, 2023, 35, 3263-3282.	3.2	7
194	Synthetic Data and Computer-Vision-Based Automated Quality Inspection System for Reused Scaffolding. Applied Sciences (Switzerland), 2022, 12, 10097.	1.3	6
195	Surface Defect Detection Algorithm Based on Feature-Enhanced YOLO. Cognitive Computation, 2023, 15, 565-579.	3.6	12
196	Infrared Thermal Imaging-Based Turbine Blade Crack Classification Using Deep Learning. Journal of Nondestructive Evaluation, 2022, 41, .	1.1	7
197	Novel industrial surface-defect detection using deep nested convolutional network with attention and guidance modules. Journal of Computational Design and Engineering, 0, , .	1.5	6
198	Computer vision framework for crack detection of civil infrastructure—A review. Engineering Applications of Artificial Intelligence, 2023, 117, 105478.	4.3	50
199	Deep learning based online metallic surface defect detection method for wire and arc additive manufacturing. Robotics and Computer-Integrated Manufacturing, 2023, 80, 102470.	6.1	50

#	ARTICLE	IF	CITATIONS
200	UAV image defect detection method for steel structure of high-speed railway bridge girder. , 2022, , .		1
201	Automatic detection of visual faults on photovoltaic modules using deep ensemble learning network. Energy Reports, 2022, 8, 14382-14395.	2.5	8
202	A Novel Defect Detection Method for Ferrite Shield Surface Defects by Improved Faster R-CNN. Scientific Programming, 2022, 2022, 1-12.	0.5	0
203	Wheel hub defect detection based on the DS-Cascade RCNN. Measurement: Journal of the International Measurement Confederation, 2023, 206, 112208.	2.5	8
204	Defect Detection in Multiple Product Variants Using Hammering Test with Machine Learning. International Journal of Automation Technology, 2022, 16, 783-794.	0.5	0
205	Textile Defect Classification Based on Convolutional Neural Network and SVM. AATCC Journal of Research, 2021, 8, 75-81.	0.3	1
206	Autonomous Concrete Crack Semantic Segmentation Using Deep Fully Convolutional Encoder–Decoder Network in Concrete Structures Inspection. Buildings, 2022, 12, 2019.	1.4	6
207	Defect Detection Scheme of Pins for Aviation Connectors Based on Image Segmentation and Improved RESNET-50. International Journal of Image and Graphics, 2024, 24, .	1.2	2
208	Assessment of milling condition by image processing of the produced surfaces. International Journal of Advanced Manufacturing Technology, 2023, 124, 1681-1697.	1.5	3
209	RAG-PaDiM: Residual Attention Guided PaDiM for Defects Segmentation in Railway Tracks. Journal of Electrical Engineering and Technology, 2023, 18, 1429-1438.	1.2	5
210	DSTEELNet: A Real-Time Parallel Dilated CNN with Atrous Spatial Pyramid Pooling for Detecting and Classifying Defects in Surface Steel Strips. Sensors, 2023, 23, 544.	2.1	6
211	Collaborative Learning Classification Model for PCBs Defect Detection Against Image and Label Uncertainty. IEEE Transactions on Instrumentation and Measurement, 2023, 72, 1-8.	2.4	4
212	Detecting Machining Defects inside Engine Piston Chamber with Computer Vision and Machine Learning. Sensors, 2023, 23, 785.	2.1	3
213	Attention-Guided Multitask Learning for Surface Defect Identification. IEEE Transactions on Industrial Informatics, 2023, 19, 9713-9721.	7.2	9
214	FaNet: Feature-aware network for few shot classification of strip steel surface defects. Measurement: Journal of the International Measurement Confederation, 2023, 208, 112446.	2.5	13
215	Automatic Detection of Weld Defects in Pressure Vessel X-Ray Image Based on CNN. Wuhan University Journal of Natural Sciences, 2022, 27, 489-498.	0.2	1
216	Defect Recognition of Metal Components Based On Transfer Learning and Feature Fusion. , 2022, , .		0
217	Fast plug-in capacitors polarity detection with morphology and SVM fusion method in automatic optical inspection system. Signal, Image and Video Processing, 2023, 17, 2555-2563.	1.7	0

#	Article	IF	Citations
218	Canned Food Surface Defect Classification Using YOLOv4. , 2022, , .		2
219	Toward TR-PCB Bubble Detection via an Efficient Attention Segmentation Network and Dynamic Threshold. IEEE Transactions on Instrumentation and Measurement, 2023, 72, 1-12.	2.4	0
220	Cotton Packaging Defect Detection Based on Improved SVM Algorithm. , 2022, , .		0
221	Anomaly detection for industrial quality assurance: A comparative evaluation of unsupervised deep learning models. Computers and Industrial Engineering, 2023, 177, 109045.	3.4	11
222	Optimization of Computational Resources for Real-Time Product Quality Assessment Using Deep Learning and Multiple High Frame Rate Camera Sensors. Applied System Innovation, 2023, 6, 25.	2.7	2
223	An End-to-End Steel Surface Classification Approach Based on EDCGAN and MobileNet V2. Sensors, 2023, 23, 1953.	2.1	2
224	A Survey of Surface Defect Detection Based on Deep Learning. , 2023, , 362-367.		3
225	Detect Anomalies on Metal Surface. Advances in Science and Technology, 0, , .	0.2	0
226	Convolutional Neural Network in Medical Image Analysis: A Review. Archives of Computational Methods in Engineering, 2023, 30, 2793-2810.	6.0	11
227	An Improved YOLOv5-based Method for Surface Defect Detection of Steel Plate. , 2022, , .		2
228	An Unsupervised Anomaly Detection Scheme based on Memory Mechanism in Cloud-edge Collaboration Scenario. , 2022, , .		1
230	DHT: Dynamic Vision Transformer Using Hybrid Window Attention for Industrial Defect Images Classification. IEEE Instrumentation and Measurement Magazine, 2023, 26, 19-28.	1.2	4
231	Stain Defect Classification by Gabor Filter and Dual-Stream Convolutional Neural Network. Applied Sciences (Switzerland), 2023, 13, 4540.	1.3	1
232	Adaptive cropping shallow attention network for defect detection of bridge girder steel using unmanned aerial vehicle images. Journal of Zhejiang University: Science A, 2023, 24, 243-256.	1.3	1
233	A Convolution Neural Network-Based Approach for Metal Surface Roughness Evaluation. Current Materials Science, 2023, 16, .	0.2	0
234	Machine Vision Inspection of Steel Surface Using Combined Global and Local Features. Advances in Intelligent Systems and Computing, 2023, , 359-368.	0.5	0
236	A Deep Learning Based End-to-end Surface Defect Detection Method for Industrial Scenes. , 2023, , .		0
239	Research of Neural Network Methods of Visual Defectoscopy of Metal Structures. , 2023, , .		0

#	ARTICLE	IF	CITATIONS
241	Surface defect detection using deep learning. AIP Conference Proceedings, 2023, , .	0.3	1
247	Segmentation and Detection of Industrial Surface Defect Based on Deep Neural Network. Lecture Notes in Electrical Engineering, 2023, , 617-638.	0.3	0
248	Surface Defect Detection Based on ResNet Classification Network with GAN Optimized. , 2022, , .		1
250	Research on AINDANE-faster R-CNN-based metal plate defect detection method. , 2023, , .		0
253	M2AttR2U-net: Networks with Multiple Inputs and Multi-layer Supervision for the Bridge Cracks. , 2023, , .		0
255	Digital Defect Simulation-based Data Generation for Visual Quality Inspection. , 2023, , .		0
257	Defect Detection inÂBatavia Woven Fabrics byÂMeans ofÂConvolutional Neural Networks. Lecture Notes in Networks and Systems, 2023, , 205-215.	0.5	1
258	Innovative Solutions and Applications of 5G Smart Factory for Chip Packaging. , 2023, , .		0
259	Analysis of Submerged Arc Welding (SAW) Surface Defects Using Convolutional Neural Network (CNN). Lecture Notes in Mechanical Engineering, 2023, , 283-291.	0.3	0
262	Arm Injury Classification on a Small Custom Dataset Using CNNs and Augmentation. , 2023, , .		0
266	Development of Image Processing Techniques in Crack Detection and Analysis. , 2023, , .		0
269	Robotic Slag Removal System with Position Compensation and Defect Detection based on YOLO Algorithm. , 2023, , .		0
272	Application of Machine Learning Algorithms in Cold-Rolled Strip Steel Surface Defect Grading Systems. , 2023, , .		0
287	An Improved Mask R-CNN for Instance Segmentation of Tree Crowns in Aerial Imagery. , 2023, , .		0
288	Benchmark: Formal Verification ofÂSemantic Segmentation Neural Networks. Lecture Notes in Computer Science, 2024, , 311-330.	1.0	1
290	MIAD: A Maintenance Inspection Dataset for Unsupervised Anomaly Detection. , 2023, , .		1
291	Automatic Detection of Defective Metal Pressed Components Using Artificial Intelligence. , 2023, , .		0
292	Development of an Autonomous Unmanned Aerial Vehicle for Rapid Aircraft Defect Detection. , 2024, , 94-102.		0

#	ARTICLE	IF	CITATIONS
294	Multi-Modal Defect Detection System for Single Color Fabrics in the Apparel Industry. , 2023, , .		0
297	Deep Industrial Image Anomaly Detection: A Survey. , 2024, 21, 104-135.		1
300	Research on Surface Defect Detection in Submersible Pump Impellers Based on the Novel MXNet Deep Learning Model. , 2023, , .		0
301	Defect Detection in Computer Motherboard Assembly through Fusion of Multi-Scale Features and Attention Mechanisms. , 2023, , .		0