Melvyn L Smith

List of Publications by Year
in descending order

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83 papers	1,476 citations	331259 21 h-index	360668 35 g-index
89 all docs	89 docs citations	89 times ranked	1239 citing authors

#	Article	IF	Citations
1	Towards on-farm pig face recognition using convolutional neural networks. Computers in Industry, 2018, 98, 145-152.	5.7	203
2	The quiet revolution in machine vision - a state-of-the-art survey paper, including historical review, perspectives, and future directions. Computers in Industry, 2021, 130, 103472.	5.7	79
3	Early and non-intrusive lameness detection in dairy cows using 3-dimensional video. Biosystems Engineering, 2017, 153, 63-69.	1.9	73
4	Object surface recovery using a multi-light photometric stereo technique for non-Lambertian surfaces subject to shadows and specularities. Image and Vision Computing, 2007, 25, 1050-1057.	2.7	72
5	A photometric stereo-based 3D imaging system using computer vision and deep learning for tracking plant growth. GigaScience, 2019, 8, .	3.3	62
6	A new approach to the three-dimensional quantification of angularity using image analysis of the size and form of coarse aggregates. Engineering Geology, 2007, 91, 254-264.	2.9	53
7	3D face reconstructions from photometric stereo using near infrared and visible light. Computer Vision and Image Understanding, 2010, 114, 942-951.	3.0	53
8	Visual features based boosted classification of weeds for real-time selective herbicide sprayer systems. Computers in Industry, 2018, 98, 23-33.	5.7	53
9	Diabetes mellitus prediction and diagnosis from a data preprocessing and machine learning perspective. Computer Methods and Programs in Biomedicine, 2022, 220, 106773.	2.6	50
10	Automated inspection of textured ceramic tiles. Computers in Industry, 2000, 43, 73-82.	5.7	42
11	Automatic machine vision calibration using statistical and neural network methods. Image and Vision Computing, 2005, 23, 887-899.	2.7	37
12	Face Recognition and Verification Using Photometric Stereo: The Photoface Database and a Comprehensive Evaluation. IEEE Transactions on Information Forensics and Security, 2013, 8, 121-135.	4.5	36
13	Gender and gaze gesture recognition for human-computer interaction. Computer Vision and Image Understanding, 2016, 149, 32-50.	3.0	35
14	Reflectance of human skin using colour photometric stereo: with particular application to pigmented lesion analysis. Skin Research and Technology, 2008, 14, 173-179.	0.8	34
15	Face recognition in 2D and 2.5D using ridgelets and photometric stereo. Pattern Recognition, 2012, 45, 3317-3327.	5.1	30
16	The Photoface database. , 2011, , .		29
17	Distribution quantification on dermoscopy images for computer-assisted diagnosis of cutaneous melanomas. Medical and Biological Engineering and Computing, 2012, 50, 503-513.	1.6	29
18	Eye center localization and gaze gesture recognition for humanâ€“computer interaction. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2016, 33, 314.	0.8	29

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19	Innovative 3D and 2D machine vision methods for analysis of plants and crops in the field. Computers in Industry, 2018, 97, 122-131.	5.7	28
20	Multispectral imaging for presymptomatic analysis of light leaf spot in oilseed rape. Plant Methods, 2019, 15, 4.	1.9	28
21	Broad-Leaf Weed Detection in Pasture. , 2018, , .		25
22	Dynamic photometric stereoâ€"a new technique for moving surface analysis. Image and Vision Computing, 2005, 23, 841-852.	2.7	24
23	Examining the uncertainty of the recovered surface normal in three light photometric stereo. Image and Vision Computing, 2007, 25, 1073-1079.	2.7	24
24	A new method describing border irregularity of pigmented lesions. Skin Research and Technology, 2010, 16, 66-76.	0.8	20
25	An improved photometric stereo through distance estimation and light vector optimization from diffused maxima region. Pattern Recognition Letters, 2014, 50, 15-22.	2.6	18
26	A robust multi-scale integration method to obtain the depth from gradient maps. Computer Vision and Image Understanding, 2012, 116, 882-895.	3.0	15
27	A system for the dynamic industrial inspection of specular freeform surfaces. Optics and Lasers in Engineering, 2012, 50, 632-644.	2.0	15
28	Unsupervised subâ€segmentation for pigmented skin lesions. Skin Research and Technology, 2012, 18, 77-87.	0.8	14
29	In vivo measurement of skin microrelief using photometric stereo in the presence of interreflections. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2013, 30, 278.	0.8	13
30	Photometric stereo for three-dimensional leaf venation extraction. Computers in Industry, 2018, 98, 56-67.	5.7	13
31	Obtaining malignant melanoma indicators through statistical analysis of 3D skin surface disruptions. Skin Research and Technology, 2009, 15, 262-270.	0.8	12
32	<title>Overview of passive and active vision techniques for hand-held 3D data acquistion</title>. , 2003, 4877, 16.		11
33	Simulation of an optical-sensing technique for tracking surgical tools employed in computer-assisted interventions. IEEE Sensors Journal, 2005, 5, 1127-1131.	2.4	11
34	Combination of 3D skin surface texture features and 2D ABCD features for improved melanoma diagnosis. Medical and Biological Engineering and Computing, 2015, 53, 961-974.	1.6	11
35	Weed classification in grasslands using convolutional neural networks. , 2019, , .		11
36	A computer assisted diagnosis system for malignant melanoma using 3D skin surface texture features and artificial neural network. International Journal of Modelling, Identification and Control, 2010, 9, 370.	0.2	10

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37	Using nasal curves matching for expression robust 3D nose recognition. , 2013, , .		10
38	Vanishing point detection for visual surveillance systems in railway platform environments. Computers in Industry, 2018, 98, 153-164.	5.7	10
39	Towards Facial Expression Recognition for On-Farm Welfare Assessment in Pigs. Agriculture (Switzerland), 2021, 11, 847.	1.4	10
40	Simulation of a complex optical polishing process using a neural network. Robotics and Computer-Integrated Manufacturing, 2008, 24, 32-37.	6.1	9
41	Using 3D differential forms to characterize a pigmented lesion in vivo. Skin Research and Technology, 2010, 16, 77-84.	0.8	9
42	Dynamic deflectometry: A novel approach for the on-line reconstruction of specular freeform surfaces. Optics and Lasers in Engineering, 2012, 50, 1765-1778.	2.0	9
43	Incorporating clinical metadata with digital image features for automated identification of cutaneous melanoma. British Journal of Dermatology, 2013, 169, 1034-1040.	1.4	8
44	Gender recognition from facial images: two or three dimensions?. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2016, 33, 333.	0.8	8
45	Real-time recovery of moving 3D faces for emerging applications. Computers in Industry, 2013, 64, 1390-1398.	5.7	6
46	Robust 3D face capture using example-based photometric stereo. Computers in Industry, 2013, 64, 1399-1410.	5.7	6
47	A computer vision approach to improving cattle digestive health by the monitoring of faecal samples. Scientific Reports, 2020, 10, 17557.	1.6	6
48	Facial Reconstruction and Alignment Using Photometric Stereo and Surface Fitting. Lecture Notes in Computer Science, 2009, , 88-95.	1.0	6
49	Towards Machine Vision for Insect Welfare Monitoring and Behavioural Insights. Frontiers in Veterinary Science, 2022, 9, 835529.	0.9	6
50	Enhanced 3D curvature pattern and melanoma diagnosis. Computerized Medical Imaging and Graphics, 2011, 35, 155-165.	3.5	5
51	2.5D Facial Expression Recognition using Photometric Stereo and the Area Weighted Histogram of Shape Index. , 2012, , .		5
52	3D reconstruction of concave surfaces using polarisation imaging. Journal of Modern Optics, 2015, 62, 927-932.	0.6	5
53	Biological Indexes Based Reflectional Asymmetry for Classifying Cutaneous Lesions. Lecture Notes in Computer Science, 2011, 14, 124-132.	1.0	5
54	Combinatorial photometric stereo and its application in 3D modeling of melanoma. Machine Vision and Applications, 2012, 23, 1029-1045.	1.7	4

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55	Multi-Scale Depth from Slope with Weights. , 2010, , .		4
56	Segmentation of clinical lesion images using normalized cut. , 2009, , .		3
57	A efficient and practical 3D face scanner using near infrared and visible photometric stereo. Procedia Computer Science, 2010, 2, 11-19.	1.2	3
58	Baseline face recognition using photometric stereo data. Procedia Computer Science, 2010, 2, 20-25.	1.2	3
59	Multidimensional imaging for skin tissue surface characterization. Computers in Industry, 2013, 64, 1383-1389.	5.7	3
60	Testing the Validity of Lamberts Law for Micro-scale Photometric Stereo Applied to Paper Substrates. , 2015, , .		3
61	Machine Vision Inspection for Polished Stone Manufacture. Key Engineering Materials, 2003, 250, 131-137.	0.4	2
62	Facial Geometry Estimation Using Photometric Stereo and Profile Views. Lecture Notes in Computer Science, 2009, , 1-11.	1.0	2
63	Recovering Skin Reflectance and Geometry for Diagnosis of Melanoma. Series in Bioengineering, 2014, , 243-265.	0.3	2
64	Novel Photometric Stereo Based Pulmonary Function Testing. , 2012, , .		2
65	Concealed Object Perception and Recognition Using a Photometric Stereo Strategy. Lecture Notes in Computer Science, 2009, , 445-455.	1.0	2
66	<title>Innovative approach to surface inspection using an alliance of machine vision and computer graphical techniques</title>. , 2001, 4189, 99.		1
67	Seeing is believing in the machine vision age. Metal Powder Report, 2002, 57, 20-29.	0.3	1
68	Stereo vision technology for object measurement. , 2003, 5011, 307.		1
69	Comparison of a new contact topographical measurement system for spherical and aspherical surfaces with interferometry. , 2004, , .		1
70	A new approach to predict computer controlled polishing results. , 2005, , .		1
71	Paper type classification based on a new 3D surface texture measure. Electronics Letters, 2014, 50, 596-598.	0.5	1
72	Long-range concealed object detection through active covert illumination. , 2015, , .		1

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73	Eye Centre Localisation with Convolutional Neural Network Based Regression. , 2019, , .		1
74	Dynamic Photometric Stereo. Lecture Notes in Computer Science, 2005, , 826-833.	1.0	1
75	The Virtual Point Light Source Model the Practical Realisation of Photometric Stereo for Dynamic Surface Inspection. Lecture Notes in Computer Science, 2005, , 495-502.	1.0	1
76	Multi-scale Integration of Slope Data on an Irregular Mesh. Lecture Notes in Computer Science, 2011, , 109-120.	1.0	1
77	<title>Vision system and three-dimensional modeling techniques for quantification of the morphology of irregular particles</title>. , 2000, 4197, 146.		0
78	Automated visual inspection for polished stone manufacture. , 2003, , .		0
79	Lens production enhancement by adoption of artificial influence functions and a knowledge-based system in a magnetorheological finishing process. Proceedings of SPIE, 2007, , .	0.8	0
80	Computer vision applications â€“ Special issue. Image and Vision Computing, 2007, 25, 1035-1036.	2.7	0
81	Analysis of three dimensional textures through use of photometric stereo, co-occurrence matrices and neural networks. , 2012, , .		0
82	Surface Normals Based Landmarking for 3D Face Recognition Using Photometric Stereo Captures. , 2019, , .		0
83	Optical imaging technology in colonoscopy: Is there a role for photometric stereo?. World Journal of Gastrointestinal Endoscopy, 2020, 12, 138-148.	0.4	0