Donald G Bailey

List of Publications by Year
in descending order

128 papers	**1,409** citations	623734 **14** h-index	677142 **22** g-index
132 all docs	**132** docs citations	**132** times ranked	**1070** citing authors

#	Article	IF	Citations
1	A Novel Approach to Real-time Bilinear Interpolation. , 0, , .		97
2	FPGA implementation of a Single Pass Connected Components Algorithm. , 2008, , .		58
3	Efficient Hardware Implementation For Fingerprint Image Enhancement Using Anisotropic Gaussian Filter. IEEE Transactions on Image Processing, 2017, 26, 2116-2126.	9.8	57
4	Optimised single pass connected components analysis. , 2008, , .		52
5	An Efficient Euclidean Distance Transform. Lecture Notes in Computer Science, 2004, , 394-408.	1.3	46
6	Longshore realignment of shore-parallel sand-bars at Wanganui, New Zealand. Marine Geology, 2001, 179, 147-161.	2.1	42
7	Analysis of Errors in ToF Range Imaging With Dual-Frequency Modulation. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 1861-1868.	4.7	40
8	A Resource-Efficient Hardware Architecture for Connected Component Analysis. IEEE Transactions on Circuits and Systems for Video Technology, 2016, 26, 1334-1349.	8.3	34
9	Connected components analysis of streamed images. , 2008, , .		30
10	Low cost colour sensors for monitoring plant growth in a laboratory. , 2011, , .		27
11	Real-time edge detection and range finding using FPGAs. Optik, 2015, 126, 1545-1550.	2.9	25
12	Test bed for number plate recognition applications. , 0, , .		23
13	Automatic retinal vessel extraction algorithm based on contrast-sensitive schemes. , 2016, , .		23
14	A generalized multi-scale line-detection method to boost retinal vessel segmentation sensitivity. Pattern Analysis and Applications, 2019, 22, 1177-1196.	4.6	22
15	The advantages and limitations of high level synthesis for FPGA based image processing. , 2015, , .		21
16	Interpolation Models for Image Super-resolution. , 2008, , .		19
17	A spatial domain scar removal strategy for fingerprint image enhancement. Pattern Recognition, 2016, 60, 258-274.	8.1	18
18	Image Processing Using FPGAs. Journal of Imaging, 2019, 5, 53.	3.0	18

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19	Making Use of 3D Models for Plant Physiognomic Analysis: A Review. Remote Sensing, 2021, 13, 2232.	4.0	18
20	Image Border Management for FPGA Based Filters. , 2011, , .		17
21	Zig-Zag Based Single-Pass Connected Components Analysis. Journal of Imaging, 2019, 5, 45.	3.0	17
22	Comparison of a camera-software system and typical farm management for detecting oestrus in dairy cattle at pasture. New Zealand Veterinary Journal, 2006, 54, 73-77.	0.9	16
23	Adaptive Simplification of Prediction Modes for H.264 Intra-Picture Coding. IEEE Transactions on Broadcasting, 2012, 58, 125-129.	3.2	15
24	A high-throughput FPGA architecture for parallel connected components analysis based on label reuse. , 2013, , .		15
25	Vegetative phase change in Metrosideros: Shoot and root restriction. Plant Growth Regulation, 1999, 28, 207-214.	3.4	14
26	Automated Detection of Breaking Wave Height Using an Optical Technique. Journal of Coastal Research, 2011, 28, 671.	0.3	13
27	Adaptive Dynamic On-chip Memory Management for FPGA-based reconfigurable architectures. , 2014, , .		13
28	Real-time iris segmentation and its implementation on FPGA. Journal of Real-Time Image Processing, 2020, 17, 1089-1102.	3.5	13
29	VIPS â€" a digital image processing algorithm development environment. Image and Vision Computing, 1988, 6, 176-184.	4.5	12
30	Using design patterns to overcome image processing constraints on FPGAs. , 2006, , .		12
31	Efficient hardware implementation strategy for local normalization of fingerprint images. Journal of Real-Time Image Processing, 2019, 16, 1263-1275.	3.5	12
32	Non-destructive and cost-effective 3D plant growth monitoring system in outdoor conditions. Multimedia Tools and Applications, 2020, 79, 34955-34971.	3.9	12
33	Seed development in Phaseolus vulgaris L. cv. Seminole. 3. NMR imaging of embryos during ethylene-induced precocious germination. Seed Science Research, 1998, 8, 357-365.	1.7	11
34	A Visual Environment for Real-Time Image Processing in Hardware (VERTIPH). Eurasip Journal on Embedded Systems, 2006, 2006, 1-8.	1.2	11
35	Efficient FPGA implementation of homodyne-based time-of-flight range imaging. Journal of Real-Time Image Processing, 2012, 7, 21-29.	3.5	11
36	A single-cycle parallel multi-slice connected components analysis hardware architecture. Journal of Real-Time Image Processing, 2019, 16, 1165-1175.	3.5	11

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37	The quantitative assessment of photodensity of the third carpal bone in the horse. New Zealand Veterinary Journal, 2004, 52, 70-75.	0.9	10
38	Sign language analysis and recognition: A preliminary investigation. , 2009, , .		10
39	Reconfigurable foveated active vision system. , 2008, , .		9
40	Algorithm Transformation for FPGA Implementation. , 2010, , .		9
41	Overview of image-based 3D vision systems for agricultural applications. , 2017, , .		9
42	Design Patterns for Image Processing Algorithm Development on FPGAs. , 2005, , .		8
43	Extending the depth of field in microscopy: A review. , 2016, , .		8
44	Border Handling for 2D Transpose Filter Structures on an FPGA. Journal of Imaging, 2018, 4, 138.	3.0	8
45	Super-resolution of bar codes. Journal of Electronic Imaging, 2001, 10, 213.	0.9	7
46	Error control and concealment for video transmission using data hiding. , 0, , .		7
47	Discrete YUV look-up tables for fast colour segmentation for robotic applications. Canadian Conference on Electrical and Computer Engineering, 2008, , .	0.0	7
48	Efficient implementation of greyscale morphological filters. , 2010, , .		7
49	Simulation of Triple Buffer Scheme (Comparison with Double Buffering Scheme). , 2009, , .		6
50	Exploring the implementation of JPEG compression on FPGA. , 2012, , .		6
51	3D Reconstruction of Plants Under Outdoor Conditions Using Image-Based Computer Vision. Communications in Computer and Information Science, 2019, , 284-297.	0.5	6
52	Analysis and application of digital spectral warping in analog and mixed-signal testing. IEEE Transactions on Reliability, 2003, 52, 444-457.	4.6	5
53	The Development of a Novel Image Quality Metric and a Synthetic Colour Test Image for Objective Quality Assessment of Digital Codecs. , 2005, , .		5
54	Drouge tracking by image processing for the study of laboratory scale pond hydraulics. Flow Measurement and Instrumentation, 2006, 17, 69-74.	2.0	5

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55	GATOS: a windowing operating system for FPGAs. , 2006, , .		5
56	Tracking performance of a foveated vision system. , 2009, , .		5
57	Least-squares Optimal Interpolation for Fast Image Super-resolution. , 2010, , .		5
58	Invited paper: Adapting algorithms for hardware implementation. , 2011, , .		5
59	Advanced Bayer demosaicing on FPGAs. , 2015, , .		5
60	Comparative Study and Proof of Single-Pass Connected Components Algorithms. Journal of Mathematical Imaging and Vision, 2019, 61, 1112-1134.	1.3	5
61	Slowly dissolving particles in instant whole milk powder â€" Characterisation and quantitative analysis. International Dairy Journal, 2019, 97, 65-70.	3.0	5
62	Analysing Arbitrary Curves from the Line Hough Transform. Journal of Imaging, 2020, 6, 26.	3.0	5
63	History and Evolution of Single Pass Connected Component Analysis. , 2020, , .		5
64	Machine Vision: A Multi-Disciplinary Systems Engineering Problem. Proceedings of SPIE, 1988, 0939, 148.	0.8	4
65	Test chirp signal generation using spectral warping. , 0, , .		4
66	Bias Characteristics of Bilinear Interpolation Based Registration. , 2005, , .		4
67	The Development of a Synthetic Colour Test Image for Subjective and Objective Quality Assessment of Digital Codecs. , 0, , .		4
68	Bias of higher order predictive interpolation for sub-pixel registration. , 2007, , .		4
69	Implementation of a foveal vision mapping. , 2009, , .		4
70	Accelerating the distance transform. , 2012, , .		4
71	Pause detection in continuous sign language. International Journal of Computer Applications in Technology, 2014, 50, 75.	0.5	4
72	Edge preserving CFA demosaicking based on nonlinear weighted color differences. , 2016, , .		4

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73	FPGA based multi-shell filter for hot pixel removal within colour filter array demosaicing. , 2016, , .		4
74	Deriving scale normalisation factors for a GLoG detector. IET Image Processing, 2018, 12, 1673-1682.	2.5	4
75	Autonomous Driving Developed with an FPGA Design. , 2019, , .		4
76	Vision Sensor with an Active Digital Fovea. Lecture Notes in Electrical Engineering, 2009, , 91-111.	0.4	4
77	Plant Trait Segmentation for Plant Growth Monitoring. , 2020, , .		4
78	Plant trait measurement in 3D for growth monitoring. Plant Methods, 2022, 18, 59.	4.3	4
79	<title>Three-dimensional vision for real-time produce grading</title>. , 2002, , .		3
80	Spectral Warping Revisited. , 0, , .		3
81	Automatic Estimation of Camera Position in Robot Soccer. , 2008, , .		3
82	A Visual Notation for Processor and Resource Scheduling. , 2008, , .		3
83	Assistive technology for relieving communication lumber between hearing/speech impaired and hearing people. Journal of Engineering, 2014, 2014, 312-323.	1.1	3
84	Streamed hough transform and line reconstruction on FPGA. , 2017, , .		3
85	Lens distortion correction by analysing peak shape in Hough transform space. , 2017, , .		3
86	Hierarchical Fuzzy State Controller for Robot Vision. Lecture Notes in Computer Science, 2008, , 391-402.	1.3	3
87	FPGA Implementation of Global Vision for Robot Soccer as a Smart Camera. Advances in Intelligent Systems and Computing, 2014, , 657-665.	0.6	3
88	Noise Characteristics of Higher Order Predictive Interpolation for Sub-pixel Registration. , 2007, , .		2
89	Model-based least squares optimal interpolation. , 2009, , .		2
90	Notations for Multiphase Pipelines. , 2010, , .		2

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91	Delayed absolute difference (DAD) signatures of dynamic features for sign language segmentation. , 2011, , .		2
92	Streamed high dynamic range imaging. , 2012, , .		2
93	Intelligent Camera for Object Identification and Tracking. Advances in Intelligent Systems and Computing, 2013, , 1003-1013.	0.6	2
94	Efficient hardware calculation of running statistics. , 2013, , .		2
95	Towards automatic colour segmentation for robot soccer. , 2015, , .		2
96	Model and feature selection for the classification of dark field pollen images using the classifynder system. , 2017, , .		2
97	Lens Distortion Self-Calibration Using the Hough Transform. , 2018, , .		2
98	RGB Imaging Based Estimation of Leaf Chlorophyll Content. , 2019, , .		2
99	Autonomous Vehicle Development Using FPGA for Image Processing. , 2019, , .		2
100	High-speed Weighing Using Impact on Load Cells. , 2005, , .		1
101	Harmonic distortion measurement using spectral warping. , 2006, , .		1
102	An integrated planning tool for Next Generation Network modelling. , 2010, , .		1
103	Adaptive Classifier for Robust Detection of Signing Articulators Based on Skin Colour. , 2011, , .		1
104	Implementing Machine Vision Systems Using FPGAs. , 2012, , 1103-1136.		1
105	Smart camera for Trax playing robot. , 2015, , .		1
106	Reducing the Cost of Removing Border Artefacts in Fourier Transforms. , 2017, , .		1
107	Hough transform line reconstruction on FPGA using back-projection. , 2017, , .		1
108	Comparison of machine learning-based feature pooling strategies for colour image fidelity assessment. , 2017, , .		1

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109	Coupling orientation diffusion with coherence-enhancing diffusion: a fingerprint case. Signal, Image and Video Processing, 2018, 12, 513-521.	2.7	1
110	Evaluation of High-Speed Image Processing for Low Latency Control of a Mechatronic System. Advances in Intelligent Systems and Computing, 2019, , 565-576.	0.6	1
111	Image Processing and Vehicles â€" Using FPGA to Reduce Latency of Time Critical Tasks. , 2019, , .		1
112	Union-Retire: A New Paradigm for Single-Pass Connected Component Analysis. Communications in Computer and Information Science, 2021, , 273-287.	0.5	1
113	The Shape of Patterns Tells More. Lecture Notes in Computer Science, 2020, , 64-75.	1.3	1
114	Fast Image Capture and Vision Processing For Robotic Applications. Lecture Notes in Electrical Engineering, 2008, , 329-352.	0.4	1
115	Automatic Produce Grading System. , 2012, , 1289-1316.		1
116	Union-Retire for Connected Components Analysis on FPGA. Journal of Imaging, 2022, 8, 89.	3.0	1
117	<title>Superresolution of bar codes</title>. , 1998, , .		0
118	Integrative approach to teaching electronics design. , 2000, , .		0
119	Interactive Web-based tutorials for teaching digital electronics. , 2000, 4228, 212.		0
120	Real time vision for measuring pipe erosion. , 2011, , .		0
121	Rolling Prevention Mechanism for Underground Pipe Erosion Inspection Robot with a Real Time Vision System. International Journal of Intelligent Mechatronics and Robotics, 2013, 3, 60-76.	0.4	0
122	Automating monitoring of cat feeding behaviour. , 2014, , .		0
123	Robot Identification using Shape Features on an FPGA-Based Smart Camera. , 2014, , .		0
124	FPT2015 welcome from general chair. , 2015, , .		0
125	Development of a low cost microfluidic imaging system. , 2016, , .		0
126	Identification of Trax threats using pattern matching. , 2016, , .		0

#	ARTICLE	IF	CITATIONS
127	Sub-Pixel Registration Technique for X-ray Phase Contrast Imaging. , 2019, , .		0
128	Methodology of extracting microtopography of kiwifruit skin using fringe projection. , 2019, , .		0