Fabio Roli

List of Publications by Citations

240 papers	**7,322** citations	**45** h-index	**77** g-index
261 ext. papers	**8,908** ext. citations	**3** avg, IF	**6.38** L-index

#	Paper	IF	Citations
240	Evasion Attacks against Machine Learning at Test Time. *Lecture Notes in Computer Science*, **2013**, 387-402	2.9	359
239	Wild patterns: Ten years after the rise of adversarial machine learning. *Pattern Recognition*, **2018**, 84, 317-331	7.7	338
238	Design of effective neural network ensembles for image classification purposes. *Image and Vision Computing*, **2001**, 19, 699-707	3.7	261
237	A theoretical and experimental analysis of linear combiners for multiple classifier systems. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, **2005**, 27, 942-56	13.3	217
236	Security Evaluation of Pattern Classifiers under Attack. *IEEE Transactions on Knowledge and Data Engineering*, **2014**, 26, 984-996	4.2	200
235	Dynamic classifier selection based on multiple classifier behaviour. *Pattern Recognition*, **2001**, 34, 1879-1881	7.7	181
234	An extension of the Jeffreys-Matusita distance to multiclass cases for feature selection. *IEEE Transactions on Geoscience and Remote Sensing*, **1995**, 33, 1318-1321	8.1	166
233	An approach to the automatic design of multiple classifier systems. *Pattern Recognition Letters*, **2001**, 22, 25-33	4.7	151
232	Intrusion detection in computer networks by a modular ensemble of one-class classifiers. *Information Fusion*, **2008**, 9, 69-82	16.7	146
231	Adversarial Feature Selection Against Evasion Attacks. *IEEE Transactions on Cybernetics*, **2016**, 46, 766-777	10.2	120
230	Fusion of multiple classifiers for intrusion detection in computer networks. *Pattern Recognition Letters*, **2003**, 24, 1795-1803	4.7	118
229	Diversified Sensitivity-Based Undersampling for Imbalance Classification Problems. *IEEE Transactions on Cybernetics*, **2015**, 45, 2402-12	10.2	114
228	Multiple classifier systems for robust classifier design in adversarial environments. *International Journal of Machine Learning and Cybernetics*, **2010**, 1, 27-41	3.8	114
227	Reject option with multiple thresholds. *Pattern Recognition*, **2000**, 33, 2099-2101	7.7	114
226	LivDet 2011 Fingerprint liveness detection competition 2011 **2012**,		105
225	Adversarial attacks against intrusion detection systems: Taxonomy, solutions and open issues. *Information Sciences*, **2013**, 239, 201-225	7.7	103
224	Towards Poisoning of Deep Learning Algorithms with Back-gradient Optimization **2017**,		98

187	Designing multi-label classifiers that maximize F measures: State of the art. *Pattern Recognition*, **2017**, 61, 394-404	7.7	39
186	Evaluation of serial and parallel multibiometric systems under spoofing attacks **2012**,		38
185	Is data clustering in adversarial settings secure? **2013**,		38
184	Bayesian relevance feedback for content-based image retrieval. *Pattern Recognition*, **2004**, 37, 1499-1508	7.7	37
183	Multi-label classification with a reject option. *Pattern Recognition*, **2013**, 46, 2256-2266	7.7	35
182	FINGERPRINT SILICON REPLICAS: STATIC AND DYNAMIC FEATURES FOR VITALITY DETECTION USING AN OPTICAL CAPTURE DEVICE. *International Journal of Image and Graphics*, **2008**, 08, 495-512	0.5	34
181	Threshold optimisation for multi-label classifiers. *Pattern Recognition*, **2013**, 46, 2055-2065	7.7	33
180	Analysis of error-reject trade-off in linearly combined multiple classifiers. *Pattern Recognition*, **2004**, 37, 1245-1265	7.7	33
179	Multiple Classifier Systems under Attack. *Lecture Notes in Computer Science*, **2010**, 74-83	0.9	33
178	An Experimental Comparison of Classifier Fusion Rules for Multimodal Personal Identity Verification Systems. *Lecture Notes in Computer Science*, **2002**, 325-335	0.9	32
177	Adaptive Biometric Systems That Can Improve with Use **2008**, 447-471		31
176	Wild Patterns **2018**,		30
175	Poisoning attacks to compromise face templates **2013**,		29
174	Randomized Prediction Games for Adversarial Machine Learning. *IEEE Transactions on Neural Networks and Learning Systems*, **2017**, 28, 2466-2478	10.3	29
173	Critical analysis of adaptive biometric systems. *IET Biometrics*, **2012**, 1, 179-187	2.9	29
172	Template Update Methods in Adaptive Biometric Systems: A Critical Review. *Lecture Notes in Computer Science*, **2009**, 847-856	0.9	29
171	Support vector machines for remote sensing image classification **2001**, 4170, 160		29
170	A Multiple Component Matching Framework for Person Re-identification. *Lecture Notes in Computer Science*, **2011**, 140-149	0.9	29

169	Fusion of LDA and PCA for Face Verification. *Lecture Notes in Computer Science*, **2002**, 30-37	0.9	29
168	Secure Kernel Machines against Evasion Attacks **2016**,		28
167	Group-specific face verification using soft biometrics. *Journal of Visual Languages and Computing*, **2009**, 20, 101-109		27
166	Fusion of multiple fingerprint matchers by single-layer perceptron with class-separation loss function. *Pattern Recognition Letters*, **2005**, 26, 1830-1839	4.7	27
165	Poisoning Adaptive Biometric Systems. *Lecture Notes in Computer Science*, **2012**, 417-425	0.9	27
164	Fingerprint liveness detection using local texture features. *IET Biometrics*, **2017**, 6, 224-231	2.9	26
163	Design of robust classifiers for adversarial environments **2011**,		26
162	Adversarial Pattern Classification Using Multiple Classifiers and Randomisation. *Lecture Notes in Computer Science*, **2008**, 500-509	0.9	26
161	Dynamic Classifier Selection. *Lecture Notes in Computer Science*, **2000**, 177-189	0.9	25
160	Application of neural networks and statistical pattern recognition algorithms to earthquake risk evaluation. *Pattern Recognition Letters*, **1997**, 18, 1353-1362	4.7	24
159	Statistical Meta-Analysis of Presentation Attacks for Secure Multibiometric Systems. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, **2017**, 39, 561-575	13.3	23
158	DeltaPhish: Detecting Phishing Webpages in Compromised Websites. *Lecture Notes in Computer Science*, **2017**, 370-388	0.9	23
157	Is Deep Learning Safe for Robot Vision? Adversarial Examples Against the iCub Humanoid **2017**,		23
156	Adaptive selection of image classifiers. *Lecture Notes in Computer Science*, **1997**, 38-45	0.9	23
155	Vitality Detection from Fingerprint Images: A Critical Survey. *Lecture Notes in Computer Science*, **2007**, 722-731	0.9	23
154	Template Co-update in Multimodal Biometric Systems. *Lecture Notes in Computer Science*, **2007**, 1194-1202	0.9	23
153	Neural shape codes for 3D model retrieval. *Pattern Recognition Letters*, **2015**, 65, 15-21	4.7	22
152	Biometric template update using the graph mincut algorithm : A case study in face verification **2008**,		21

151	STOCK MARKET PREDICTION BY A MIXTURE OF GENETIC-NEURAL EXPERTS. *International Journal of Pattern Recognition and Artificial Intelligence*, **2002**, 16, 501-526	1.1	21
150	Image Spam Filtering Using Visual Information **2007**,		20
149	Fusion of appearance-based face recognition algorithms. *Pattern Analysis and Applications*, **2004**, 7, 151	2.3	20
148	One-and-a-Half-Class Multiple Classifier Systems for Secure Learning Against Evasion Attacks at Test Time. *Lecture Notes in Computer Science*, **2015**, 168-180	0.9	20
147	A note on core research issues for statistical pattern recognition. *Pattern Recognition Letters*, **2002**, 23, 493-499	4.7	19
146	Semi-supervised Multiple Classifier Systems: Background and Research Directions. *Lecture Notes in Computer Science*, **2005**, 1-11	0.9	19
145	The Behavior Knowledge Space Fusion Method: Analysis of Generalization Error and Strategies for Performance Improvement. *Lecture Notes in Computer Science*, **2003**, 55-64	0.9	19
144	Bayesian Analysis of Linear Combiners **2007**, 292-301		18
143	. *IEEE Transactions on Information Forensics and Security*, **2021**, 16, 3469-3478	8	18
142	Performance Analysis and Comparison of Linear Combiners for Classifier Fusion. *Lecture Notes in Computer Science*, **2002**, 424-432	0.9	18
141	Challenges and Research Directions for Adaptive Biometric Recognition Systems. *Lecture Notes in Computer Science*, **2009**, 753-764	0.9	17
140	Fingerprint Classification by Combination of Flat and Structural Approaches. *Lecture Notes in Computer Science*, **2001**, 241-246	0.9	17
139	Analysis of Linear and Order Statistics Combiners for Fusion of Imbalanced Classifiers. *Lecture Notes in Computer Science*, **2002**, 252-261	0.9	17
138	Biometric system adaptation by self-update and graph-based techniques. *Journal of Visual Languages and Computing*, **2013**, 24, 1-9		16
137	Serial fusion of multi-modal biometric systems **2010**,		16
136	A parallel network of modified 1-NN and k-NN classifiers Application to remote-sensing image classification. *Pattern Recognition Letters*, **1998**, 19, 57-62	4.7	16
135	Capturing large intra-class variations of biometric data by template co-updating **2008**,		16
134	Multiple Classifier Systems for Adversarial Classification Tasks. *Lecture Notes in Computer Science*, **2009**, 132-141	0.9	16

133	Analysis of unsupervised template update in biometric recognition systems. *Pattern Recognition Letters*, **2014**, 37, 151-160	4.7	15
132	Robustness analysis of likelihood ratio score fusion rule for multimodal biometric systems under spoof attacks **2011**,		15
131	Diversity in Classifier Ensembles: Fertile Concept or Dead End?. *Lecture Notes in Computer Science*, **2013**, 37-48	0.9	15
130	Poisoning Complete-Linkage Hierarchical Clustering. *Lecture Notes in Computer Science*, **2014**, 42-52	0.9	15
129	A parameter randomization approach for constructing classifier ensembles. *Pattern Recognition*, **2017**, 69, 1-13	7.7	14
128	Using Co-training and Self-training in Semi-supervised Multiple Classifier Systems. *Lecture Notes in Computer Science*, **2006**, 522-530	0.9	14
127	3D face mask presentation attack detection based on intrinsic image analysis. *IET Biometrics*, **2020**, 9, 100-108	2.9	13
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125	Self adaptive systems: An experimental analysis of the performance over time **2011**,		13
124	Selection of image classifiers. *Electronics Letters*, **2000**, 36, 420	1.1	13
123	. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, **1994**, 16, 92-98	13.3	13
122	Robustness Evaluation of Biometric Systems under Spoof Attacks. *Lecture Notes in Computer Science*, **2011**, 159-168	0.9	13
121	Explaining Black-box Android Malware Detection **2018**,		13
120	Multiple Reject Thresholds for Improving Classification Reliability. *Lecture Notes in Computer Science*, **2000**, 863-871	0.9	13
119	An Experimental Comparison of Fixed and Trained Fusion Rules for Crisp Classifier Outputs. *Lecture Notes in Computer Science*, **2002**, 232-241	0.9	13
118	Combining gait and face for tackling the elapsed time challenges **2013**,		12
117	Robustness of multi-modal biometric verification systems under realistic spoofing attacks **2011**,		12
116	Exploiting Dissimilarity Representations for Person Re-identification. *Lecture Notes in Computer Science*, **2011**, 275-289	0.9	12

115	A Modular Multiple Classifier System for the Detection of Intrusions in Computer Networks. *Lecture Notes in Computer Science*, **2003**, 346-355	0.9	12
114	Fusion of Face Recognition Algorithms for Video-Based Surveillance Systems **2003**, 235-249		12
113	Structured neural networks for signal classification. *Signal Processing*, **1998**, 64, 271-290	4.4	11
112	Comparison of fingerprint quality measures using an optical and a capacitive sensor **2007**,		11
111	Dynamic Score Combination: A Supervised and Unsupervised Score Combination Method. *Lecture Notes in Computer Science*, **2009**, 163-177	0.9	11
110	An Experimental Analysis of the Relationship between Biometric Template Update and the Doddington Zoo: A Case Study in Face Verification. *Lecture Notes in Computer Science*, **2009**, 434-442	0.9	11
109	Adversarial EXEmples. *ACM Transactions on Privacy and Security*, **2021**, 24, 1-31	2.9	11
108	Fusion of Statistical and Structural Fingerprint Classifiers. *Lecture Notes in Computer Science*, **2003**, 310-317	0.9	11
107	Replacement Algorithms for Fingerprint Template Update. *Lecture Notes in Computer Science*, **2008**, 884-893	0.9	10
106	Dynamic Score Selection for Fusion of Multiple Biometric Matchers **2007**,		10
105	On Security and Sparsity of Linear Classifiers for Adversarial Settings. *Lecture Notes in Computer Science*, **2016**, 322-332	0.9	10
104	A Classification Approach with a Reject Option for Multi-label Problems. *Lecture Notes in Computer Science*, **2011**, 98-107	0.9	10
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102	A novel classification-selection approach for the self updating of template-based face recognition systems. *Pattern Recognition*, **2020**, 100, 107121	7.7	10
101	2020 Cybercrime Economic Costs: No Measure No Solution **2015**,		9
100	**2017**,		9
99	Experimental results on the feature-level fusion of multiple fingerprint liveness detection algorithms **2012**,		9
98	Biometric Template Update: An Experimental Investigation on the Relationship between Update Errors and Performance Degradation in Face Verification. *Lecture Notes in Computer Science*, **2008**, 684-693	0.9	9

97	Performance of fingerprint quality measures depending on sensor technology. *Journal of Electronic Imaging*, **2008**, 17, 011008	0.7	9
96	An Experimental Comparison of Fingerprint Classification Methods Using Graphs. *Lecture Notes in Computer Science*, **2005**, 281-290	0.9	9
95	Pattern Recognition Systems under Attack. *Lecture Notes in Computer Science*, **2013**, 1-8	0.9	9
94	Comparison and Combination of Statistical and Neural Network Algorithms for Remote-Sensing Image Classification **1997**, 117-124		9
93	Review of Fingerprint Presentation Attack Detection Competitions. *Advances in Computer Vision and Pattern Recognition*, **2019**, 109-131	1.1	9
92	Fingerprint Liveness Detection Based on Fake Finger Characteristics. *International Journal of Digital Crime and Forensics*, **2012**, 4, 1-19	0.7	8
91	DECISION-LEVEL FUSION OF PCA AND LDA-BASED FACE RECOGNITION ALGORITHMS. *International Journal of Image and Graphics*, **2006**, 06, 293-311	0.5	8
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89	Alarm Clustering for Intrusion Detection Systems in Computer Networks. *Lecture Notes in Computer Science*, **2005**, 184-193	0.9	8
88	Serial Fusion of Fingerprint and Face Matchers. *Lecture Notes in Computer Science*, **2007**, 151-160	0.9	8
87	Evade Hard Multiple Classifier Systems. *Studies in Computational Intelligence*, **2009**, 15-38	0.8	8
86	Experimental Results on Fusion of Multiple Fingerprint Matchers. *Lecture Notes in Computer Science*, **2003**, 814-820	0.9	7
85	A General Method for Appearance-Based People Search Based on Textual Queries. *Lecture Notes in Computer Science*, **2012**, 453-461	0.9	7
84	Large Scale Experiments on Fingerprint Liveness Detection. *Lecture Notes in Computer Science*, **2012**, 501-509	0.9	7
83	Network Intrusion Detection by Combining One-Class Classifiers. *Lecture Notes in Computer Science*, **2005**, 58-65	0.9	7
82	Analysis and Selection of Features for the Fingerprint Vitality Detection. *Lecture Notes in Computer Science*, **2006**, 907-915	0.9	7
81	People Search with Textual Queries About Clothing Appearance Attributes **2014**, 371-389		7
80	CompactNet: learning a compact space for face presentation attack detection. *Neurocomputing*, **2020**, 409, 191-207	5.4	6

79	Deep neural rejection against adversarial examples. *Eurasip Journal on Information Security*, **2020**, 2020,	3.8	6
78	Intrusion Detection in Computer Systems Using Multiple Classifier Systems. *Studies in Computational Intelligence*, **2008**, 91-113	0.8	6
77	Template Selection by Editing Algorithms: A Case Study in Face Recognition. *Lecture Notes in Computer Science*, **2008**, 745-754	0.9	6
76	Selection of Classifiers Based on Multiple Classifier Behaviour. *Lecture Notes in Computer Science*, **2000**, 87-93	0.9	6
75	Adaptive Query Shifting for Content-Based Image Retrieval. *Lecture Notes in Computer Science*, **2001**, 337-346	0.9	6
74	Linear Combiners for Classifier Fusion: Some Theoretical and Experimental Results. *Lecture Notes in Computer Science*, **2003**, 74-83	0.9	6
73	A multi-modal dataset, protocol and tools for adaptive biometric systems: a benchmarking study. *International Journal of Biometrics*, **2013**, 5, 266	0.4	5
72	Machine learning in computer forensics (and the lessons learned from machine learning in computer security) **2011**,		5
71	Liveness detection competition 2009. *Biometric Technology Today*, **2009**, 17, 7-9	1	5
70	Designing multiple biometric systems: Measures of ensemble effectiveness. *Engineering Applications of Artificial Intelligence*, **2009**, 22, 66-78	7.2	5
69	A Two-Stage Classifier with Reject Option for Text Categorisation. *Lecture Notes in Computer Science*, **2004**, 771-779	0.9	5
68	Temporal Analysis of Biometric Template Update Procedures in Uncontrolled Environment. *Lecture Notes in Computer Science*, **2011**, 595-604	0.9	5
67	Fusion of Radio and Video Localization for People Tracking. *Lecture Notes in Computer Science*, **2011**, 258-263	0.9	5
66	Countermeasures Against Adversarial Examples in Radio Signal Classification. *IEEE Wireless Communications Letters*, **2021**, 10, 1830-1834	5.9	5
65	Counter-forensics in machine learning based forgery detection **2015**,		4
64	PharmaGuard: Automatic identification of illegal search-indexed online pharmacies **2015**,		4
63	Sparse support faces **2015**,		4
62	Multimodal fingerprint verification by score-level fusion: An experimental investigation. *Journal of Intelligent and Fuzzy Systems*, **2013**, 24, 51-60	1.6	4

43	Fingerprint presentation attacks detection based on the user-specific effect **2017**,		2
42	An Empirical Investigation on the Use of Diversity for Creation of Classifier Ensembles. *Lecture Notes in Computer Science*, **2015**, 206-219	0.9	2
41	A Score Decidability Index for Dynamic Score Combination **2010**,		2
40	Why template self-update should work in biometric authentication systems? **2012**,		2
39	Online and Offline Fingerprint Template Update Using Minutiae: An Experimental Comparison. *Lecture Notes in Computer Science*, **2008**, 441-448	0.9	2
38	Dynamic score combination of binary experts **2008**,		2
37	A new information system in support of landscape assessment: PLAINS. *Computers, Environment and Urban Systems*, **1999**, 23, 459-467	5.9	2
36	. *IEEE Journal on Selected Areas in Communications*, **1994**, 12, 1553-1565	14.2	2
35	Fingerprint recognition with embedded presentation attacks detection: are we ready?. *IEEE Transactions on Information Forensics and Security*, **2021**, 1-1	8	2
34	Do gradient-based explanations tell anything about adversarial robustness to android malware?. *International Journal of Machine Learning and Cybernetics*,1	3.8	2
33	Score Selection Techniques for Fingerprint Multi-modal Biometric Authentication. *Lecture Notes in Computer Science*, **2005**, 1018-1025	0.9	2
32	Fingerprint Verification by Decision-Level Fusion of Optical and Capacitive Sensors. *Lecture Notes in Computer Science*, **2004**, 307-317	0.9	2
31	Fast Image Classification with Reduced Multiclass Support Vector Machines. *Lecture Notes in Computer Science*, **2015**, 78-88	0.9	2
30	Multimodal Anti-spoofing in Biometric Recognition Systems. *Advances in Computer Vision and Pattern Recognition*, **2014**, 165-184	1.1	2
29	. *IEEE Computational Intelligence Magazine*, **2016**, 11, 36-45	5.6	2
28	Error Rejection in Linearly Combined Multiple Classifiers. *Lecture Notes in Computer Science*, **2001**, 329-338	0.9	2
27	Multi-stage ranking approach for fast person re-identification. *IET Computer Vision*, **2018**, 12, 513-519	1.4	1
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24	Classifier Selection Approaches for Multi-label Problems. *Lecture Notes in Computer Science*, **2011**, 167-176		1
23	A Bayesian analysis of co-training algorithm with insufficient views **2012**,		1
22	Index Driven Combination of Multiple Biometric Experts for AUC Maximisation **2007**, 357-366		1
21	Query Shifting Based on Bayesian Decision Theory for Content-Based Image Retrieval. *Lecture Notes in Computer Science*, **2002**, 607-616	0.9	1
20	Combination of Experts by Classifiers in Similarity Score Spaces. *Lecture Notes in Computer Science*, **2008**, 821-830	0.9	1
19	Dynamic Weighted Fusion of Adaptive Classifier Ensembles Based on Changing Data Streams. *Lecture Notes in Computer Science*, **2014**, 105-116	0.9	1
18	Gesture Modelling and Recognition by Integrating Declarative Models and Pattern Recognition Algorithms. *Lecture Notes in Computer Science*, **2017**, 84-95	0.9	1
17	Deepsquatting: Learning-Based Typosquatting Detection at Deeper Domain Levels. *Lecture Notes in Computer Science*, **2017**, 347-358	0.9	1
16	A Classification-Selection Approach for Self Updating of Face Verification Systems Under Stringent Storage and Computational Requirements. *Lecture Notes in Computer Science*, **2015**, 540-550	0.9	1
15	Semi-supervised Co-update of Multiple Matchers. *Lecture Notes in Computer Science*, **2009**, 152-160	0.9	1
14	DEICTIC: A compositional and declarative gesture description based on hidden markov models. *International Journal of Human Computer Studies*, **2019**, 122, 113-132	4.6	1
13	Detecting Anomalies from Video-Sequences: a Novel Descriptor **2021**,		1
12	Empirical assessment of generating adversarial configurations for software product lines. *Empirical Software Engineering*, **2021**, 26, 1	3.3	1
11	Infrared and visible image fusion using a shallow CNN and structural similarity constraint. *IET Image Processing*, **2020**, 14, 3562-3571	1.7	0
10	A Fingerprint Forensic Tool for Criminal Investigations. *Advances in Digital Crime, Forensics, and Cyber Terrorism*, **2010**, 23-52	0.2	0
9	A Hybrid Training-time and Run-time Defense Against Adversarial Attacks in Modulation Classification. *IEEE Wireless Communications Letters*, **2022**, 1-1	5.9	0
8	A (Cyber)ROAD to the Future: A Methodology for Building Cybersecurity Research Roadmaps. *Advanced Sciences and Technologies for Security Applications*, **2016**, 53-77	0.6	

LIST OF PUBLICATIONS

7   Fingerprint Liveness Detection Based on Fake Finger Characteristics1-17

6   Modelling FRR of Biometric Verification Systems Using the Template Co-update Algorithm. *Lecture Notes in Computer Science*, **2009**, 765-774   0.9

5   Bayesian Linear Combination of Neural Networks. *Studies in Computational Intelligence*, **2009**, 201-230   0.8

4   Dynamic Linear Combination of Two-Class Classifiers. *Lecture Notes in Computer Science*, **2010**, 473-482   0.9

3   Estimating the Serial Combination's Performance from That of Individual Base Classifiers. *Lecture Notes in Computer Science*, **2013**, 622-631   0.9

2   On the Evaluation of Video-Based Crowd Counting Models. *Lecture Notes in Computer Science*, **2022**, 301-311   0.9

1   Experimental Results on Multi-modal Deepfake Detection. *Lecture Notes in Computer Science*, **2022**, 164-175   0.9