

Frank Piessens

List of Publications by Year in descending order

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Version: 2024-02-01

168
papers

3,653
citations

411340

20
h-index

406436

35
g-index

180
all docs

180
docs citations

180
times ranked

1466
citing authors

#	ARTICLE	IF	CITATIONS
1	Linear capabilities for fully abstract compilation of separation-logic-verified code. Journal of Functional Programming, 2021, 31, .	0.5	4
2	CapablePtrs: Securely Compiling Partial Programs Using the Pointers-as-Capabilities Principle. , 2021, , .		7
3	Robust authentication for automotive control networks through covert channels. Computer Networks, 2021, 193, 108079.	3.2	5
4	Securing Interruptible Enclaved Execution on Small Microprocessors. ACM Transactions on Programming Languages and Systems, 2021, 43, 1-77.	1.7	3
5	Aion: Enabling Open Systems through Strong Availability Guarantees for Enclaves. , 2021, , .		10
6	POSTER: An Open-Source Framework for Developing Heterogeneous Distributed Enclave Applications. , 2021, , .		0
7	LVI: Hijacking Transient Execution through Microarchitectural Load Value Injection. , 2020, , .		72
8	Plundervolt: Software-based Fault Injection Attacks against Intel SGX. , 2020, , .		137
9	Provably Secure Isolation for Interruptible Enclaved Execution on Small Microprocessors. , 2020, , .		14
10	Plundervolt: How a Little Bit of Undervolting Can Create a Lot of Trouble. IEEE Security and Privacy, 2020, 18, 28-37.	1.5	10
11	A Categorical Approach to Secure Compilation. Lecture Notes in Computer Science, 2020, , 155-179.	1.0	2
12	Security across abstraction layers: old and new examples. , 2020, , .		1
13	A Tale of Two Worlds. , 2019, , .		48
14	Linear capabilities for fully abstract compilation of separation-logic-verified code. , 2019, 3, 1-29.		10
15	Temporal Safety for Stack Allocated Memory on Capability Machines. , 2019, , .		5
16	A Server-Side JavaScript Security Architecture for Secure Integration of Third-Party Libraries. Security and Communication Networks, 2019, 2019, 1-21.	1.0	6
17	Breaking Virtual Memory Protection and the SGX Ecosystem with Foreshadow. IEEE Micro, 2019, 39, 66-74.	1.8	12
18	Parametricity versus the universal type. , 2018, 2, 1-23.		12

#	ARTICLE	IF	CITATIONS
19	Prudent Design Principles for Information Flow Control. , 2018, , .		5
20	Nemesis. , 2018, , .		33
21	Tracking Information Flow via Delayed Output. Lecture Notes in Computer Science, 2018, , 19-37.	1.0	7
22	Sancus 2.0. ACM Transactions on Privacy and Security, 2017, 20, 1-33.	2.2	61
23	VulCAN. , 2017, , .		35
24	Authentic Execution of Distributed Event-Driven Applications with a Small TCB. Lecture Notes in Computer Science, 2017, , 55-71.	1.0	8
25	Automatically Generating Secure Wrappers for SGX Enclaves from Separation Logic Specifications. Lecture Notes in Computer Science, 2017, , 105-123.	1.0	5
26	A Principled Approach to Tracking Information Flow in the Presence of Libraries. Lecture Notes in Computer Science, 2017, , 49-70.	1.0	11
27	Developing Secure SGX Enclaves. , 2016, , .		2
28	Mitigating Password Database Breaches with Intel SGX. , 2016, , .		8
29	Security Guarantees for the Execution Infrastructure of Software Applications. , 2016, , .		3
30	On Modular and Fully-Abstract Compilation. , 2016, , .		11
31	Letâ€™s Face It: Faceted Values for Taint Tracking. Lecture Notes in Computer Science, 2016, , 561-580.	1.0	5
32	Eliminating dependent pattern matching without K. Journal of Functional Programming, 2016, 26, .	0.5	5
33	Towards availability and real-time guarantees for protected module architectures. , 2016, , .		3
34	Reasoning about Object Capabilities with Logical Relations and Effect Parametricity. , 2016, , .		22
35	Fully-abstract compilation by approximate back-translation. , 2016, , .		26
36	Fully-abstract compilation by approximate back-translation. ACM SIGPLAN Notices, 2016, 51, 164-177.	0.2	3

#	ARTICLE	IF	CITATIONS
37	Unifiers as equivalences: proof-relevant unification of dependently typed data. ACM SIGPLAN Notices, 2016, 51, 270-283.	0.2	2
38	Software Security: Vulnerabilities and Countermeasures for Two Attacker Models. , 2016, , .		6
39	Security monitor inlining and certification for multithreaded Java. Mathematical Structures in Computer Science, 2015, 25, 528-565.	0.5	1
40	Fixing non-determinism. , 2015, , .		3
41	Sound Modular Verification of C Code Executing in an Unverified Context. ACM SIGPLAN Notices, 2015, 50, 581-594.	0.2	5
42	Runtime Enforcement of Security Policies on Black Box Reactive Programs. ACM SIGPLAN Notices, 2015, 50, 43-54.	0.2	10
43	Secure Compilation to Protected Module Architectures. ACM Transactions on Programming Languages and Systems, 2015, 37, 1-50.	1.7	64
44	Generating safe boundary APIs between typed EDSLs and their environments. , 2015, , .		0
45	Protected Web Components: Hiding Sensitive Information in the Shadows. IT Professional, 2015, 17, 36-43.	1.4	4
46	Policy ignorant caller-side inline reference monitoring. International Journal on Software Tools for Technology Transfer, 2015, 17, 291-303.	1.7	1
47	Sound Modular Verification of C Code Executing in an Unverified Context. , 2015, , .		21
48	Runtime Enforcement of Security Policies on Black Box Reactive Programs. , 2015, , .		13
49	SecSess. , 2015, , .		5
50	Solving the VerifyThis 2012 challenges with VeriFast. International Journal on Software Tools for Technology Transfer, 2015, 17, 659-676.	1.7	7
51	Secure Resource Sharing for Embedded Protected Module Architectures. Lecture Notes in Computer Science, 2015, , 71-87.	1.0	5
52	Lightweight and Flexible Trust Assessment Modules for the Internet of Things. Lecture Notes in Computer Science, 2015, , 503-520.	1.0	6
53	Sound, Modular and Compositional Verification of the Input/Output Behavior of Programs. Lecture Notes in Computer Science, 2015, , 158-182.	1.0	14
54	Salus: Kernel Support for Secure Process Compartments. EAI Endorsed Transactions on Security and Safety, 2015, 2, e1.	0.5	2

#	ARTICLE	IF	CITATIONS
55	Evolution of Security Engineering Artifacts. , 2015, , 1508-1562.		0
56	Evolution of Security Engineering Artifacts. International Journal of Secure Software Engineering, 2014, 5, 48-98.	0.4	11
57	Secure multi-execution of web scripts: Theory and practice. Journal of Computer Security, 2014, 22, 469-509.	0.5	13
58	NodeSentry. , 2014, , .		12
59	Pattern matching without K. , 2014, , .		15
60	Stateful Declassification Policies for Event-Driven Programs. , 2014, , .		29
61	ICE. , 2014, , .		22
62	Attacks on the Browser's Requests. SpringerBriefs in Computer Science, 2014, , 57-68.	0.2	1
63	Attacks on the User's Session. SpringerBriefs in Computer Science, 2014, , 69-82.	0.2	1
64	Traditional Building Blocks of the Web. SpringerBriefs in Computer Science, 2014, , 11-24.	0.2	0
65	Multi-Tier Functional Reactive Programming for the Web. , 2014, , .		23
66	Secure interrupts on low-end microcontrollers. , 2014, , .		9
67	On the Workings and Current Practices of Web-Based Device Fingerprinting. IEEE Security and Privacy, 2014, 12, 28-36.	1.5	17
68	Software verification with VeriFast: Industrial case studies. Science of Computer Programming, 2014, 82, 77-97.	1.5	34
69	Partial Type Signatures for Haskell. Lecture Notes in Computer Science, 2014, , 17-32.	1.0	4
70	Soundsquatting: Uncovering the Use of Homophones in Domain Squatting. Lecture Notes in Computer Science, 2014, , 291-308.	1.0	37
71	Client Side Web Session Integrity as a Non-interference Property. Lecture Notes in Computer Science, 2014, , 89-108.	1.0	6
72	Information Flow Control for Web Scripts. Lecture Notes in Computer Science, 2014, , 124-145.	1.0	0

#	ARTICLE	IF	CITATIONS
73	CPM. ACM Transactions on Information and System Security, 2013, 16, 1-27.	4.5	5
74	Typed syntactic meta-programming. , 2013, , .		8
75	Fixing idioms. , 2013, , .		5
76	Cookieless Monster: Exploring the Ecosystem of Web-Based Device Fingerprinting. , 2013, , .		252
77	Bitsquatting. , 2013, , .		49
78	Secure Compilation of Object-Oriented Components to Protected Module Architectures. Lecture Notes in Computer Science, 2013, , 176-191.	1.0	18
79	VeriFast for Java: A Tutorial. Lecture Notes in Computer Science, 2013, , 407-442.	1.0	9
80	HeapSentry: Kernel-Assisted Protection against Heap Overflows. Lecture Notes in Computer Science, 2013, , 177-196.	1.0	15
81	Protected Software Module Architectures. , 2013, , 241-251.		14
82	Monadic abstract interpreters. ACM SIGPLAN Notices, 2013, 48, 399-410.	0.2	6
83	State Coverage: An Empirical Analysis Based on a User Study. Lecture Notes in Computer Science, 2013, , 469-480.	1.0	0
84	Salus: Non-hierarchical Memory Access Rights to Enforce the Principle of Least Privilege. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2013, , 252-269.	0.2	6
85	Implicit dynamic frames. ACM Transactions on Programming Languages and Systems, 2012, 34, 1-58.	1.7	40
86	Runtime countermeasures for code injection attacks against C and C++ programs. ACM Computing Surveys, 2012, 44, 1-28.	16.1	42
87	Secure Compilation to Modern Processors. , 2012, , .		53
88	Fides. , 2012, , .		57
89	You are what you include. , 2012, , .		195
90	JSand. , 2012, , .		73

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91	Finally tagless observable recursion for an abstract grammar model. Journal of Functional Programming, 2012, 22, 757-796.	0.5	10
92	There Is Safety in Numbers: Preventing Control-Flow Hijacking by Duplication. Lecture Notes in Computer Science, 2012, , 105-120.	1.0	2
93	PESAP: A Privacy Enhanced Social Application Platform. , 2012, , .		4
94	FlowFox. , 2012, , .		84
95	State Coverage: Software Validation Metrics beyond Code Coverage. Lecture Notes in Computer Science, 2012, , 542-553.	1.0	9
96	Security of Web Mashups: A Survey. Lecture Notes in Computer Science, 2012, , 223-238.	1.0	23
97	Sound Formal Verification of Linux's USB BP Keyboard Driver. Lecture Notes in Computer Science, 2012, , 210-215.	1.0	9
98	Secure Multi-Execution through Static Program Transformation. Lecture Notes in Computer Science, 2012, , 186-202.	1.0	18
99	Serene: Self-Reliant Client-Side Protection against Session Fixation. Lecture Notes in Computer Science, 2012, , 59-72.	1.0	15
100	Exploring the Ecosystem of Referrer-Anonymizing Services. Lecture Notes in Computer Science, 2012, , 259-278.	1.0	3
101	DEMACRO: Defense against Malicious Cross-Domain Requests. Lecture Notes in Computer Science, 2012, , 254-273.	1.0	5
102	Recent Developments in Low-Level Software Security. Lecture Notes in Computer Science, 2012, , 1-16.	1.0	0
103	Reactive non-interference for a browser model. , 2011, , .		35
104	On the bright side of type classes. ACM SIGPLAN Notices, 2011, 46, 143-155.	0.2	19
105	Filter-resistant code injection on ARM. Journal in Computer Virology, 2011, 7, 173-188.	1.9	5
106	On the bright side of type classes. , 2011, , .		33
107	Expressive modular fine-grained concurrency specification. , 2011, , .		43
108	Webjail. , 2011, , .		40

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109	Expressive modular fine-grained concurrency specification. ACM SIGPLAN Notices, 2011, 46, 271-282.	0.2	24
110	Theoretical Aspects of Compositional Symbolic Execution. Lecture Notes in Computer Science, 2011, , 247-261.	1.0	6
111	VeriFast: A Powerful, Sound, Predictable, Fast Verifier for C and Java. Lecture Notes in Computer Science, 2011, , 41-55.	1.0	211
112	The 1st Verified Software Competition: Experience Report. Lecture Notes in Computer Science, 2011, , 154-168.	1.0	54
113	Annotation Inference for Separation Logic Based Verifiers. Lecture Notes in Computer Science, 2011, , 319-333.	1.0	11
114	Code Pointer Masking: Hardening Applications against Code Injection Attacks. Lecture Notes in Computer Science, 2011, , 194-213.	1.0	11
115	Automatic and Precise Client-Side Protection against CSRF Attacks. Lecture Notes in Computer Science, 2011, , 100-116.	1.0	30
116	Orchestrating Security and System Engineering for Evolving Systems. Lecture Notes in Computer Science, 2011, , 134-143.	1.0	0
117	Automatic verification of Java programs with dynamic frames. Formal Aspects of Computing, 2010, 22, 423-457.	1.4	8
118	Improving Memory Management Security for C and C++. International Journal of Secure Software Engineering, 2010, 1, 57-82.	0.4	2
119	Efficient Isolation of Trusted Subsystems in Embedded Systems. Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, 2010, , 344-361.	0.2	48
120	Provably correct inline monitoring for multithreaded Java-like programs. Journal of Computer Security, 2010, 18, 37-59.	0.5	8
121	PAriCheck. , 2010, , .		50
122	Noninterference through Secure Multi-execution. , 2010, , .		167
123	Low-Level Software Security by Example. , 2010, , 633-658.		17
124	CsFire: Transparent Client-Side Mitigation of Malicious Cross-Domain Requests. Lecture Notes in Computer Science, 2010, , 18-34.	1.0	33
125	Heap-Dependent Expressions in Separation Logic. Lecture Notes in Computer Science, 2010, , 170-185.	1.0	8
126	A Quick Tour of the VeriFast Program Verifier. Lecture Notes in Computer Science, 2010, , 304-311.	1.0	70

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127	ValueGuard: Protection of Native Applications against Data-Only Buffer Overflows. Lecture Notes in Computer Science, 2010, , 156-170.	1.0	15
128	Efficient and Effective Buffer Overflow Protection on ARM Processors. Lecture Notes in Computer Science, 2010, , 1-16.	1.0	1
129	Breaking the memory secrecy assumption. , 2009, , .		103
130	Protecting Global and Static Variables from Buffer Overflow Attacks. , 2009, , .		6
131	Filter-resistant code injection on ARM. , 2009, , .		10
132	The S3MS.NET Run Time Monitor. Electronic Notes in Theoretical Computer Science, 2009, 253, 153-159.	0.9	15
133	Security enforcement aware software development. Information and Software Technology, 2009, 51, 1172-1185.	3.0	8
134	Test Input Generation for Programs with Pointers. Lecture Notes in Computer Science, 2009, , 277-291.	1.0	9
135	Failboxes: Provably Safe Exception Handling. Lecture Notes in Computer Science, 2009, , 470-494.	1.0	16
136	Implicit Dynamic Frames: Combining Dynamic Frames and Separation Logic. Lecture Notes in Computer Science, 2009, , 148-172.	1.0	86
137	Security-By-Contract for the Future Internet. Lecture Notes in Computer Science, 2009, , 29-43.	1.0	0
138	Report: Extensibility and Implementation Independence of the .NET Cryptographic API. Lecture Notes in Computer Science, 2009, , 101-110.	1.0	0
139	A Machine Checked Soundness Proof for an Intermediate Verification Language. Lecture Notes in Computer Science, 2009, , 570-581.	1.0	5
140	Security-by-contract on the .NET platform. Information Security Technical Report, 2008, 13, 25-32.	1.3	42
141	Provable Protection against Web Application Vulnerabilities Related to Session Data Dependencies. IEEE Transactions on Software Engineering, 2008, 34, 50-64.	4.3	6
142	A programming model for concurrent object-oriented programs. ACM Transactions on Programming Languages and Systems, 2008, 31, 1-48.	1.7	25
143	Generics of a higher kind. ACM SIGPLAN Notices, 2008, 43, 423-438.	0.2	8
144	VeriCool: An Automatic Verifier for a Concurrent Object-Oriented Language. Lecture Notes in Computer Science, 2008, , 220-239.	1.0	17

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145	A Caller-Side Inline Reference Monitor for an Object-Oriented Intermediate Language. Lecture Notes in Computer Science, 2008, , 240-258.	1.0	14
146	An Automatic Verifier for Java-Like Programs Based on Dynamic Frames. Lecture Notes in Computer Science, 2008, , 261-275.	1.0	20
147	Supporting Security Monitor-Aware Development. , 2007, , .		4
148	A flexible security architecture to support third-party applications on mobile devices. , 2007, , .		17
149	Sound reasoning about unchecked exceptions. , 2007, , .		10
150	A Simple Sequential Reasoning Approach for Sound Modular Verification of Mainstream Multithreaded Programs. Electronic Notes in Theoretical Computer Science, 2007, 174, 23-47.	0.9	8
151	Inspector Methods for State Abstraction.. Journal of Object Technology, 2007, 6, 55.	0.8	7
152	Bridging the gap between web application firewalls and web applications. , 2006, , .		26
153	Extended Protection against Stack Smashing Attacks without Performance Loss. Proceedings of the Computer Security Applications Conference, 2006, , .	0.0	29
154	Efficient Protection Against Heap-Based Buffer Overflows Without Resorting to Magic. Lecture Notes in Computer Science, 2006, , 379-398.	1.0	20
155	Static Verification of Code Access Security Policy Compliance of .NET Applications.. Journal of Object Technology, 2006, 5, 35.	0.8	10
156	Static Verification of Indirect Data Sharing in Loosely-coupled Component Systems. Lecture Notes in Computer Science, 2006, , 34-49.	1.0	2
157	THREAT MODELLING FOR WEB SERVICES BASED WEB APPLICATIONS. , 2005, , 131-144.		0
158	A GENERIC ARCHITECTURE FOR WEB APPLICATIONS TO SUPPORT THREAT ANALYSIS OF INFRASTRUCTURAL COMPONENTS. , 2005, , 125-130.		0
159	Adaptable Access Control Policies for Medical Information Systems. Lecture Notes in Computer Science, 2003, , 133-140.	1.0	5
160	Universal Arrow Foundations for Visual Modeling. Lecture Notes in Computer Science, 2000, , 345-360.	1.0	28
161	A decision procedure for semantical equivalence of thin FM specifications. Journal of Pure and Applied Algebra, 1999, 143, 351-379.	0.3	0
162	What vs. How of Visual Modeling: The Arrow Logic of Graphic Notations. , 1999, , 27-44.		3

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163	Selective attribute elimination for categorical data specifications. Lecture Notes in Computer Science, 1997, , 424-436.	1.0	9
164	Proving semantical equivalence of data specifications. Journal of Pure and Applied Algebra, 1997, 116, 291-322.	0.3	4
165	Canonical forms for data-specifications. Lecture Notes in Computer Science, 1995, , 397-411.	1.0	1
166	Featherweight VeriFast. Logical Methods in Computer Science, 0, Volume 11, Issue 3, .	0.4	11
167	Improving Memory Management Security for C and C++. , 0, , 190-216.		0
168	Security and Privacy of Online Social Network Applications. , 0, , 206-221.		0