

Saman P Amarasinghe

List of Publications by Year in descending order

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Version: 2024-02-01

125
papers

7,847
citations

361413

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48
g-index

127
all docs

127
docs citations

127
times ranked

2707
citing authors

#	ARTICLE	IF	CITATIONS
1	GraphIt to CUDA Compiler in 2021 LOC: A Case for High-Performance DSL Implementation via Staging with BuilDSL. , 2022, , .		1
2	All you need is superword-level parallelism: systematic control-flow vectorization with SLP. , 2022, , .		6
3	Autoscheduling for sparse tensor algebra with an asymptotic cost model. , 2022, , .		9
4	Compiling Graph Applications for GPU s with GraphIt. , 2021, , .		9
5	BuildIt: A Type-Based Multi-stage Programming Framework for Code Generation in C++. , 2021, , .		5
6	Domain-Specific Language Abstractions for Compression. , 2021, , .		1
7	VeGen: a vectorizer generator for SIMD and beyond. , 2021, , .		17
8	Taming the Zoo: The Unified GraphIt Compiler Framework for Novel Architectures. , 2021, , .		7
9	A Python-based programming language for high-performance computational genomics. Nature Biotechnology, 2021, 39, 1062-1064.	17.5	9
10	Compilation of sparse array programming models. , 2021, 5, 1-29.		13
11	A Deep Dive Into Understanding The Random Walk-Based Temporal Graph Learning. , 2021, , .		4
12	Sparse Tensor Transpositions. , 2020, , .		5
13	Optimizing ordered graph algorithms with GraphIt. , 2020, , .		21
14	Automatic generation of efficient sparse tensor format conversion routines. , 2020, , .		15
15	Compiler 2.0. , 2020, , .		1
16	A sparse iteration space transformation framework for sparse tensor algebra. , 2020, 4, 1-30.		30
17	Seq: a high-performance language for bioinformatics. , 2019, 3, 1-29.		12
18	Tensor Algebra Compilation with Workspaces. , 2019, , .		25

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19	Revec: program rejuvenation through revectorization. , 2019, , .		8
20	Tiramisu: A Polyhedral Compiler for Expressing Fast and Portable Code. , 2019, , .		96
21	BHive: A Benchmark Suite and Measurement Framework for Validating x86-64 Basic Block Performance Models. , 2019, , .		16
22	Format abstraction for sparse tensor algebra compilers. , 2018, 2, 1-30.		60
23	GraphIt: a high-performance graph DSL. , 2018, 2, 1-30.		108
24	goSLP: globally optimized superword level parallelism framework. , 2018, 2, 1-28.		20
25	Cimple: instruction and memory level parallelism. , 2018, , .		8
26	A Unified Backend for Targeting FPGAs from DSLs. , 2018, , .		9
27	The three pillars of machine programming. , 2018, , .		20
28	Gloss. , 2018, , .		4
29	Gloss. ACM SIGPLAN Notices, 2018, 53, 98-112.	0.2	5
30	The tensor algebra compiler. , 2017, 1, 1-29.		183
31	Taco: A tool to generate tensor algebra kernels. , 2017, , .		25
32	Making caches work for graph analytics. , 2017, , .		71
33	Halide. Communications of the ACM, 2017, 61, 106-115.	4.5	60
34	Optimizing Indirect Memory References with milk. , 2016, , .		28
35	Distributed Halide. , 2016, , .		17
36	Simit. ACM Transactions on Graphics, 2016, 35, 1-21.	7.2	39

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37	Distributed Halide. ACM SIGPLAN Notices, 2016, 51, 1-12.	0.2	6
38	Helium: lifting high-performance stencil kernels from stripped x86 binaries to halide DSL code. , 2015, , .		23
39	Autotuning algorithmic choice for input sensitivity. , 2015, , .		50
40	Autotuning algorithmic choice for input sensitivity. ACM SIGPLAN Notices, 2015, 50, 379-390.	0.2	24
41	Helium: lifting high-performance stencil kernels from stripped x86 binaries to halide DSL code. ACM SIGPLAN Notices, 2015, 50, 391-402.	0.2	2
42	StreamJIT. , 2014, , .		10
43	OpenTuner. , 2014, , .		334
44	StreamJIT. ACM SIGPLAN Notices, 2014, 49, 177-195.	0.2	4
45	Portable performance on heterogeneous architectures. Computer Architecture News, 2013, 41, 431-444.	2.5	7
46	Halide. , 2013, , .		469
47	Dynamic expressivity with static optimization for streaming languages. , 2013, , .		23
48	Detection of false sharing using machine learning. , 2013, , .		22
49	Portable performance on heterogeneous architectures. , 2013, , .		52
50	Halide. ACM SIGPLAN Notices, 2013, 48, 519-530.	0.2	342
51	Portable performance on heterogeneous architectures. ACM SIGPLAN Notices, 2013, 48, 431-444.	0.2	4
52	Aikido. Computer Architecture News, 2012, 40, 173-184.	2.5	1
53	Aikido. , 2012, , .		14
54	Decoupling algorithms from schedules for easy optimization of image processing pipelines. ACM Transactions on Graphics, 2012, 31, 1-12.	7.2	192

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55	Siblingrivalry. , 2012, , .		29
56	Transparent dynamic instrumentation. ACM SIGPLAN Notices, 2012, 47, 133-144.	0.2	17
57	Transparent dynamic instrumentation. , 2012, , .		70
58	Hyperparameter Tuning in Bandit-Based Adaptive Operator Selection. Lecture Notes in Computer Science, 2012, , 73-82.	1.3	5
59	Aikido. ACM SIGPLAN Notices, 2012, 47, 173-184.	0.2	0
60	Dynamic cache contention detection in multi-threaded applications. ACM SIGPLAN Notices, 2011, 46, 27-38.	0.2	8
61	Dynamic cache contention detection in multi-threaded applications. , 2011, , .		52
62	Language and compiler support for auto-tuning variable-accuracy algorithms. , 2011, , .		49
63	An efficient evolutionary algorithm for solving incrementally structured problems. , 2011, , .		6
64	PetaBricks. , 2011, , .		9
65	Efficient memory shadowing for 64-bit architectures. , 2010, , .		15
66	Evaluation of IVR data collection UIs for untrained rural users. , 2010, , .		30
67	An empirical characterization of stream programs and its implications for language and compiler design. , 2010, , .		125
68	Umbra. , 2010, , .		45
69	Efficient memory shadowing for 64-bit architectures. ACM SIGPLAN Notices, 2010, 45, 93-102.	0.2	0
70	Kendo. ACM SIGPLAN Notices, 2009, 44, 97-108.	0.2	46
71	Kendo. , 2009, , .		265
72	Manipulating lossless video in the compressed domain. , 2009, , .		8

#	ARTICLE	IF	CITATIONS
73	Autotuning multigrid with PetaBricks. , 2009, , .		20
74	PetaBricks. , 2009, , .		232
75	Automatically patching errors in deployed software. , 2009, , .		282
76	PetaBricks. ACM SIGPLAN Notices, 2009, 44, 38-49.	0.2	53
77	Kendo. Computer Architecture News, 2009, 37, 97-108.	2.5	15
78	Tiled Multicore Processors. Integrated Circuits and Systems, 2009, , 1-33.	0.2	0
79	Abstraction layers for scalable microfluidic biocomputing. Natural Computing, 2008, 7, 255-275.	3.0	151
80	A lightweight streaming layer for multicore execution. Computer Architecture News, 2008, 36, 18-27.	2.5	38
81	A step towards unifying schedule and storage optimization. ACM Transactions on Programming Languages and Systems, 2007, 29, 34.	2.1	7
82	A Practical Approach to Exploiting Coarse-Grained Pipeline Parallelism in C Programs. , 2007, , .		159
83	A Practical Approach to Exploiting Coarse-Grained Pipeline Parallelism in C Programs. Microarchitecture (MICRO), Proceedings of the Annual International Symposium on, 2007, , .	0.0	4
84	Exploiting coarse-grained task, data, and pipeline parallelism in stream programs. ACM SIGPLAN Notices, 2006, 41, 151-162.	0.2	26
85	Exploiting coarse-grained task, data, and pipeline parallelism in stream programs. , 2006, , .		332
86	Exploiting coarse-grained task, data, and pipeline parallelism in stream programs. Computer Architecture News, 2006, 34, 151-162.	2.5	30
87	Exploiting coarse-grained task, data, and pipeline parallelism in stream programs. Operating Systems Review (ACM), 2006, 40, 151-162.	1.9	66
88	Language and Compiler Design for Streaming Applications. International Journal of Parallel Programming, 2005, 33, 261-278.	1.5	37
89	Cache aware optimization of stream programs. ACM SIGPLAN Notices, 2005, 40, 115-126.	0.2	18
90	Teleport messaging for distributed stream programs. , 2005, , .		28

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91	Cache aware optimization of stream programs. , 2005, , .		40
92	Optimizing stream programs using linear state space analysis. , 2005, , .		23
93	Evaluation of the Raw Microprocessor. Computer Architecture News, 2004, 32, 2.	2.5	179
94	Phased scheduling of stream programs. ACM SIGPLAN Notices, 2003, 38, 103-112.	0.2	7
95	Meta optimization. ACM SIGPLAN Notices, 2003, 38, 77-90.	0.2	81
96	Phased scheduling of stream programs. , 2003, , .		32
97	Linear analysis and optimization of stream programs. , 2003, , .		21
98	Meta optimization. , 2003, , .		106
99	Dynamic native optimization of interpreters. , 2003, , .		43
100	Strength Reduction of Integer Division and Modulo Operations. Lecture Notes in Computer Science, 2003, , 254-273.	1.3	4
101	Linear analysis and optimization of stream programs. ACM SIGPLAN Notices, 2003, 38, 12-25.	0.2	7
102	A stream compiler for communication-exposed architectures. , 2002, , .		223
103	A stream compiler for communication-exposed architectures. Computer Architecture News, 2002, 30, 291-303.	2.5	18
104	A stream compiler for communication-exposed architectures. ACM SIGPLAN Notices, 2002, 37, 291-303.	0.2	16
105	StreamIt: A Language for Streaming Applications. Lecture Notes in Computer Science, 2002, , 179-196.	1.3	508
106	A stream compiler for communication-exposed architectures. Operating Systems Review (ACM), 2002, 36, 291-303.	1.9	10
107	A unified framework for schedule and storage optimization. ACM SIGPLAN Notices, 2001, 36, 232-242.	0.2	10
108	A unified framework for schedule and storage optimization. , 2001, , .		37

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109	Exploiting superword level parallelism with multimedia instruction sets. ACM SIGPLAN Notices, 2000, 35, 145-156.	0.2	67
110	Bidwidth analysis with application to silicon compilation. , 2000, , .		144
111	Exploiting superword level parallelism with multimedia instruction sets. , 2000, , .		251
112	Bidwidth analysis with application to silicon compilation. ACM SIGPLAN Notices, 2000, 35, 108-120.	0.2	18
113	Space-time scheduling of instruction-level parallelism on a raw machine. ACM SIGPLAN Notices, 1998, 33, 46-57.	0.2	5
114	Space-time scheduling of instruction-level parallelism on a raw machine. , 1998, , .		144
115	Space-time scheduling of instruction-level parallelism on a raw machine. Operating Systems Review (ACM), 1998, 32, 46-57.	1.9	8
116	Interprocedural analysis for parallelization. Lecture Notes in Computer Science, 1996, , 61-80.	1.3	24
117	Detecting coarse-grain parallelism using an interprocedural parallelizing compiler. , 1995, , .		90
118	Unified compilation techniques for shared and distributed address space machines. , 1995, , .		7
119	Data and computation transformations for multiprocessors. , 1995, , .		148
120	Data and computation transformations for multiprocessors. ACM SIGPLAN Notices, 1995, 30, 166-178.	0.2	20
121	An overview of a compiler for scalable parallel machines. Lecture Notes in Computer Science, 1994, , 253-272.	1.3	56
122	SUIF. ACM SIGPLAN Notices, 1994, 29, 31-37.	0.2	382
123	Array-data flow analysis and its use in array privatization. , 1993, , .		115
124	Communication optimization and code generation for distributed memory machines. , 1993, , .		153
125	Communication optimization and code generation for distributed memory machines. ACM SIGPLAN Notices, 1993, 28, 126-138.	0.2	16