

Papers I Love

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1 Computer Science

1.1 Algorithms

1.1.1 Analysis

1. Recursive Algorithms in Computer Science Courses: Fibonacci Numbers and Binomial Coefficients
<http://venus.cs.qc.edu/~waxman/cs211%20spring%202009/why%20is%20recursive%20fibonacci%20so%20slow.pdf>
2. Binomial Coefficient Computation: Recursion or Iteration?
<http://delab.csd.auth.gr/papers/SBI02m.pdf>

1.1.2 Compression

1. Data Compression Using Long Common Strings
<http://www.cs.brandeis.edu/~dilant/cs175/%5BSiyong-Dong%5D.pdf>

1.1.3 Hash

1. SHA-1 and the Strict Avalanche Criterion
<https://arxiv.org/pdf/1609.00616.pdf>

1.1.4 Data Structures

1. Bitlist New Full-Text Index for Low Space Cost and Efficient Keyword Search
<http://www.vldb.org/pvldb/vol6/p1522-rao.pdf>

1.1.5 Elections + Consensus

1. Elections in a Distributed Computing System
<http://academic.research.microsoft.com/Publication/716253/elections-in-a-distributed-computing-system>
<http://homepage.cs.uiowa.edu/~ghosh/Bully.pdf>
2. The Part-Time Parliament
<http://research.microsoft.com/en-us/um/people/lamport/pubs/lamport-paxos.pdf>
3. In Search of an Understandable Consensus Algorithm
<https://ramcloud.atlassian.net/wiki/download/attachments/6586375/raft.pdf>

1.2 Architectures

1.2.1 Computer Architecture

1. Quantifying the Cost of Context Switch
<http://www.cs.rochester.edu/u/cli/research/switch.pdf>

2. What Every Programmer Should Know About Memory
<https://people.freebsd.org/~lstewart/articles/cpumemory.pdf>

1.2.2 Multi Tenancy

1. Enabling Multi-Tenancy an Industrial Experience Report
<http://swirl.tudelft.nl/twiki/pub/Main/TechnicalReports/TUD-SERG-2010-030.pdf>
2. Multi-Tenant SaaS Applications: Maintenance Dream or Nightmare
<http://swirl.tudelft.nl/twiki/pub/Main/TechnicalReports/TUD-SERG-2010-031.pdf>
3. Towards an Elastic and Autonomic Multitenant Database
<http://research.microsoft.com/en-us/um/people/srikanth/netdb11/netdb11papers/netdb11-final8.pdf>

1.2.3 REST

1. Architectural Styles and the Design of Network-Based Software Architectures
<http://academic.research.microsoft.com/Publication/1309313/architectural-styles-and-the-design-of-network-based-software-architectures>
<http://www.ics.uci.edu/~fielding/pubs/dissertation/top.htm>

1.2.4 SEDA

1. An Architecture for Highly Concurrent, Well-Conditioned Internet Services
<http://academic.research.microsoft.com/Publication/112151/seda-an-architecture-for-well-conditioned-scalable-internet-services>
<http://www.eecs.harvard.edu/~mdw/papers/mdw-phdthesis.pdf>

1.2.5 Servers

1. Flash an Efficient and Portable Web Server
https://www.usenix.org/event/usenix99/full_papers/pai/pai.pdf

1.2.6 Other Architectures

1. The Monad Manifesto
<http://www.jsnover.com/Docs/MonadManifesto.pdf>
2. The Hla Tutorial
<http://www.pitch.se/hlatutorial>

1.2.7 Patterns

1. Active Object: An Object Behavioral Pattern for Concurrent Programming
<http://www.cs.wustl.edu/~schmidt/PDF/Act-Obj.pdf>
2. Plop Half-Sync/half-Async: An Architectural Pattern for Efficient and Well-Structured Concurrent I/o
<http://www.cs.wustl.edu/~schmidt/PDF/PLoP-95.pdf>

1.2.8 Overlay Networks

1. Architectures for an Event Notification Service Scalable to Wide-Area Networks
<http://academic.research.microsoft.com/Publication/314658/architectures-for-an-event-notification-service-scalable-to-wide-area-networks>
http://www.inf.usi.ch/carzaniga/papers/phd_thesis.pdf

1.2.9 Distributed Systems

1. Time, Clocks and the Ordering of Events in a Distributed System
<http://academic.research.microsoft.com/Publication/775212/time-clocks-and-the-ordering-of-events-in-a-distributed-system>
<http://research.microsoft.com/en-us/um/people/lamport/pubs/pubs.html#time-clocks>
<http://research.microsoft.com/en-us/um/people/lamport/pubs/time-clocks.pdf>
2. Distributed Snapshots: Determining Global States of Distributed Systems
<http://academic.research.microsoft.com/Publication/803548/distributed-snapshots-determining-global-states-of-distributed-systems>
<http://research.microsoft.com/en-us/um/people/lamport/pubs/pubs.html#chandy>
<http://research.microsoft.com/en-us/um/people/lamport/pubs/chandy.pdf>
3. Your Coffee Shop Doesn't Use Two-Phase Commit
http://www.enterpriseintegrationpatterns.com/docs/IEEE_Software_Design_2PC.pdf
4. A Brief History of Process Algebra
<http://alexandria.tue.nl/extra1/wskrap/publichtml/200402.pdf>
5. Life Beyond Distributed Transactions: An Apostates Opinion
<http://www.ics.uci.edu/~cs223/papers/cidr07p15.pdf>

1.2.10 Event Based Architecture

1. Design of a Scalable Event Notification Service Interface and Architecture
<http://academic.research.microsoft.com/Publication/312680/design-of-a-scalable-event-notification-service-interface-and-architecture>
<http://www.inf.usi.ch/carzaniga/papers/CU-CS-863-98.pdf>

2. Fast Forwarding for Content-Based Networking
<http://academic.research.microsoft.com/Publication/7217/fast-forwarding-for-content-based-networking>
<http://www.inf.usi.ch/carzaniga/papers/cucs-922-01-r1.pdf>
3. Real-Time Modelling of Dds for Event-Driven Applications
<http://www.ctr.unican.es/publications/hpt-jjg-2012a.pdf>

1.2.11 Resiliency

1. Adaptive Overload Control for Busy Internet Servers
<http://academic.research.microsoft.com/Publication/634136/adaptive-overload-control-for-busy-internet-servers>
<http://www.eecs.harvard.edu/~mdw/papers/control-usits03.pdf>

1.3 Programming Paradigms

1.3.1 Object Oriented

1. A Theory of Objects
<http://academic.research.microsoft.com/Publication/1354440/a-theory-of-objects>
[http://lucacardelli.name/Talks/1997-06%20A%20Theory%20of%20object%20\(ECOOP%20Tutorial\).pdf](http://lucacardelli.name/Talks/1997-06%20A%20Theory%20of%20object%20(ECOOP%20Tutorial).pdf)
2. Traits: Composable Units of Behaviour
<http://scg.unibe.ch/archive/papers/Scha03aTraits.pdf>
3. Applying Traits to the Smalltalk Collection Hierarchy
http://www.researchgate.net/publication/2564879_Applying_Traits_to_the_Smalltalk_Collection_Hierarchy
4. A Laboratory for Teaching Object-Oriented Thinking
http://www.inf.ed.ac.uk/teaching/courses/seoc/2007_2008/resources/CRC_00thinking.pdf

1.3.2 Double Dispatch

1. Design and evaluation of C++ open multi-methods
<https://parasol.tamu.edu/~yuriys/papers/OMM10.pdf>

1.4 Database

1. The Ubiquitous B-Tree
<http://people.cs.aau.dk/~simas/aalg06/UbiquitBtree.pdf>
2. Generalized Search Trees for Database Systems
<http://db.cs.berkeley.edu/papers/vldb95-gist.pdf>

3. Concurrency and Recovery in Generalized Search Trees
<http://db.cs.berkeley.edu/papers/sigmod97-gist.pdf>
4. Data Cube: A Relational Aggregation Operator Generalizing Group-By, Cross-Tab, and Sub-Totals
<http://research.microsoft.com/pubs/69578/tr-95-22.pdf>
5. Query Optimization in Microsoft Sql Server PDW
<http://academic.research.microsoft.com/Publication/56916436/query-optimization-in-microsoft-sql-server-pdw>
6. Druid: A Real-Time Analytical Data Store <http://static.druid.io/docs/druid.pdf>
7. Map-Reduce: Simplified Dataprocessing on Large Clusters
<http://static.googleusercontent.com/media/research.google.com/en/us/archive/mapreduce-osdi04.pdf>
8. Googles Mapreduce Programming Model Revisited
<http://www.idt.mdh.se/kurser/cd5100/ht06/MapReduce/Ralf-Laemmel-paper/paper.pdf>
9. Cassandra - a Decentralized Structured Storage System
<http://www.cs.cornell.edu/projects/ladis2009/papers/lakshman-ladis2009.pdf>
10. Bigtable: A Distributed Storage System for Structured Data
<http://static.googleusercontent.com/media/research.google.com/en/archive/bigtable-osdi06.pdf>
11. Dynamo: Amazons Highly Available Key-Value Store
<http://s3.amazonaws.com/AllThingsDistributed/sosp/amazon-dynamo-sosp2007.pdf>
12. Solving Big Data Challenges for Enterprise Application Performance Management
http://vldb.org/pvldb/vol15/p1724_tilmanrabl_vldb2012.pdf

1.5 Data Fusion

1. A Generic Architecture for Fusion-Based Intrusion Detection Systems
https://rcdeboer.home.xs4all.nl/rcdb_thesis.pdf

2 Mathematics

2.1 Real Analysis

1. COISAS QUE O LUS PRECISA APRENDER
<http://www.todasasconfiguracoes.com/wp-content/uploads/2012/04/luis.pdf>

2.2 Statistics

1. A Note on the Generation of Random Normal Deviates
<http://projecteuclid.org/euclid.aoms/1177706645>
2. Tidy Data
<http://vita.had.co.nz/papers/tidy-data.pdf>
3. A Tutorial on Principal Component Analysis - Derivation, Discussion and Singular Value Decomposition
https://www.cs.princeton.edu/picasso/mats/PCA-Tutorial-Intuition_jp.pdf
4. An introduction to ROC analysis
<https://ccrma.stanford.edu/workshops/mir2009/references/ROCintro.pdf>

3 Economy

3.1 Political Economy

3.1.1 Taxes

1. The Laffer Curve Past, Present, and Future
http://s3.amazonaws.com/thf_media/2004/pdf/bg1765.pdf
2. Dynamic Revenue Estimation
<https://ideas.repec.org/a/aea/jecper/v10y1996i1p141-57.html>
3. Dynamic Scoring an Introduction to the Issues
https://www.aeaweb.org/annual_mtg_papers/2005/0107_1430_1304.pdf