Bruce Ricard   bruce.ricard@gmail.com
San Francisco bay area, California   (650) 215-8426

Software Engineer

Algorithms, backend specialist

Professional Experience

Nov 15 - May 16
MachineZone
Palo Alto
California

- Engineer in the core backend team
- Maintaining core cross-team server side code base, writen in PHP
- like the DaOs for the dozens of SQL tables used by the games
- Writing bots simulating user actions for test environment, in Python

Oct 14 - Oct 15
TubeMogul
Emeryville
California

- TubeMogul sells online video advertising slots
- Engineer in the user data-base team
- Process data from multiple parties, making it available in fast access to other teams
- System is built using Java and Kafka. Storing data in DynamoDB, Couchbase, Aerospike
- Threading done using asynchronous libraries like Guava Futures or Rx Observables.
- Wrote web-servers using Java Dropwizard. One for real-time monitoring of the system with Codahale.

Feb 13 - Sep 14
Google
Mountain View,
California

- Engineer in Adwords Express, a tool to allow very small businesses to have access to advertising on Google Search, by substantially reducing setup time
- Working with Java, C++, Flume
- Owning and maintaining the team's dashboard, with over 25 graphs reporting production status. Backend job in Java, using Flume and SQL queries to get and merge data, and format it to ColumnIO format. Frontend using an internal template
- Several projects implementing internal tools, mostly for deployment and testing purposes
- A lot of fast learning required, working with new tools almost every day

Oct 10 - Feb 13
Mylife.com
Mountain View,
California

- Engineer in the search engine team
- Our team rewrote the whole search engine in Python with Solr, Cassandra and Hadoop, under Unix (Mac OS X and Linux) systems
- Previously working with Ocaml, Lucene, Hbase
- Preparing multi-terabyte data and index by writing scripts and programs, then running them in Hadoop
- Maintaining the people search API — a low latency distributed service — by improving the search relevancy, adding new features, or improving performance

Dec 09 - Sep 10
Bouygues Telecom
Paris, France

- .NET and java programmer
- Creating, maintaining and debugging internal software controlling the real-time flow of commercial text messages automatically sent to customers or received from them
- Working in a very organized team of 30 engineers

07-08
LIP6
Paris, France

- Six-month and Five-week internships at Paris VI computer science laboratory; algebraic geometry and symbolic computation
- Required excellent knowledge of math and algorithmic for optimizing computation time, due to the double exponential complexity of the algorithm in the degree of the polynomials ($O(2^{2^d})$)
- Implement in Magma — a high level symbolic language — an experimental algorithm (rational univariate representation), in order to analyze it and measure its performances against the original algorithm
- Implement a polynomial system solving algorithm in Magma — cylindrical algebraic decomposition — and make it as efficient as possible
- Put into practice knowledge acquired during Masters education; both in mathematics and computer science. Learned to work in autonomy and meet deadlines

2002 - 2008
Paris, France

- Wrote a distributed computation program, and a compiler from a new language to Turing machine.
- Math and CS tutor

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Education

2008 - 2009	• Consolidation of my knowledge in mathematics and computer science by studying at Paris VI and at Ecole Normale Superieure de Cachan for "Agrégation" — French highest level competitive exam
2006 - 2008	• Masters degree in Mathematics/Computer Science at the Master Parisien de Recherche en Informatique and at Paris VI university, Pierre et Marie Curie and Ecole Normale Superieure de Paris
2004 - 2006	• Bachelor in Computer Science and Bachelor in Mathematics at University Pierre et Marie Curie

Skills

Software, environment

Expert	• Linux, Microsoft Windows, Mac OS X • Java, Python, Ocaml • Testing (JUnit, . . .), Flume, Hadoop, Solr, DynamoDB, xml/html, JSON, $\LaTeX 2_\varepsilon$ • CVS/SVN, Git, Perforce, (O)Make, zsh, Emacs, Eclipse, Maven, AWS
Mastered	• C, C++, C#, .NET, PHP, Javascript, Ada95, Scheme, Maple, Lucene, HBase • Lisp, Visual Basic, Coq, Magma • Cassandra, Aerospike
Notions	• Haskell, css, php

Computer science

- Specialist in algorithmic and typing
- Programming specialist, thanks to a perfect knowledge of sequential, concurrent, distributed, asynchronous, object, imperative and functional paradigms
- Good knowlege of both SQL and no-SQL data storage
- Good knowledge in cryptology and cryptography
- Good knowledge in logic and program proofs, as well as in automaton theory, and in calculability

Mathematics

- Solid knowledge, in algebra as in calculus
- Advanced knowledge in algebra and algebraic geometry

Languages

English	fluent
French	native language
Finnish	fluent
Italian	basic
Portuguese	basic

Other interests

Music	• 20 years of piano, playing in a chamber music orchestra
Sports	• Rugby referee most weekends, sailing, windsurfing, basketball, volleyball, golf, tennis, running
Games	• Chess, bridge, all sorts of logic games
Social	• Politics, debates