

# Chief Technical Officer

*Specialization : "Backend architecture & Advanced Algorithms"*

## Professional experience

Since August 2012

- **CTO of Algolia**, I co-founded the Algolia SAS company. I first worked on technology to design and implement algorithms. I now work on a wide variety of topics since we are a very young startup.

March 2011 - August 2012

- **CTO of Masa Group**, I defined and lead the technology strategy of the company in line with market perspectives and MASA growth objectives.
  - \* **In charge** of the recruitment of engineers. Manager of 4 R&D teams and 28 engineers.
  - \* **Defined** the Quality Assurance (QA) strategy and built a team of 5 persons.
  - \* **Lead the market analysis**, participated in the business plan and defined the new technical strategy for the new version of MASA Life (AI middleware)
  - \* **Lead** the acquisition of Artificial technology GmbH from the first discussion to the integration in the MASA Life team
  - \* **Defined the technology roadmap** for future releases of MASA Sword (constructive simulation) and MASA Life (AI middleware)
  - \* **Defined the transition** between a team that develop product and assure professional service in two different teams

Sep 2010 - Feb 2011

- **Responsible of Cloud Middleware platform** at Dassault Systèmes.
  - \* **Architect of a massively scalable and innovative Cloud storage and Search platform** with high availability of search (never stop user queries), high availability of build (never stop to accept new data), dynamic scalability (add new servers in production automatically)
  - \* **Cloud computing consultant** on different Dassault Systemes software to port them in SaaS.

Jan. 2007 - Sep 2010

- **Lead Software Engineer and Architect** in indexing technology and Natural Language Processing at Exalead (<http://www.exalead.com>)
  - \* **Architect and developer of large scale NLP architecture** (including more than 20 technological components like transducer or part of speech). I am the architect, the manager (6 developers) and also a developer (developed 5 components of architecture);
  - \* **Architect and developer of Exalead Index component** : new data structures to improve number of indexed document per second, designed new algorithms/data structure to reduce number of IO, reduce latency, ... (High distributed environment, C++/java);
  - \* Created a data structure for **real-time suggest on a big data set** (many millions). This technology allows to perform approximative matches (using levenshtein distances) in 10ms.
  - \* Realized algorithms to resolve some kind of **regular expressions with only 1 disk IO** (pre-computed regular expressions in a specific data structure);

2008-2009

- **Text Mining Teacher at Epita** : natural language processing, indexing, data structure for indexing/analysis (supports available at <http://julien-lemoine.com/cours/>)

Jan. 2004 - Jan. 2007

- **Advanced Algorithms Engineer** for Thales Group : conception of information analysis algorithms, development of OEM components for integrators :
  - \* **Natural Language extraction software** : extraction of named entities, relations between entities, specific extraction, ... from textual documents (**author of an international patent on this technology**);
  - \* **Data & Text Mining** : Conception of a **unsupervised clustering algorithm** based on Relational Analysis theory (**co-author of an international patent on this technology**);
  - \* **De-duplication of textual documents** : detect duplicates document (**author of an international patent on this technology**).
  - \* Development of a phonetizer based on business rules;
  - \* Participate in two european union funded projects : Deserec as data-mining responsible for Thales and Caretaker as responsible of developments for Thales

## Skills and achievements

Algorithms & concept	<ul style="list-style-type: none"><li>• indexing, data-mining, text-mining (NLP), web-mining, data-cleaning, Artificial intelligence, fault tolerance, scalability, distribution, high availability</li></ul>
Management	<ul style="list-style-type: none"><li>• Product &amp; technology strategy (CTO)</li><li>• Team management</li><li>• Budget management</li><li>• Project management</li></ul>
Languages	<ul style="list-style-type: none"><li>• C, C++, Objective-C, Java, Php</li></ul>
Code versioning	<ul style="list-style-type: none"><li>• git, svn, cvs</li></ul>
Platform	<ul style="list-style-type: none"><li>• Android, iOS, Windows Phone 8, Linux, Mac OS, Windows 8</li></ul>
System administration	<ul style="list-style-type: none"><li>• Network protocols and services (http, ftp, dns, smtp, nntp, imap, ...)</li><li>• Network technologies (masquerading, dhcp, firewall, proxy, ...)</li></ul>
Spoken languages	<ul style="list-style-type: none"><li>• English and French (both spoken and written)</li></ul>

## Off-hours realizations

- GNU/Linux user since 1996
- Debian GNU/Linux developer between 2002 and 2007 :
  - software ports and debug on 11 architectures (x86, m68k, sparc, alpha, powerpc, arm, mips, mipsel, hppa, ia64 and s390);
  - creation/management of packages;
  - handle of security issue in maintained softwares;
  - Communication with other developers (about 800).
- Member of the Happycoders association, and administrator of Happycoders.org servers ([www.happycoders.org](http://www.happycoders.org))
- Developer of
  - Speed Suggest : provides innovative autocomplete feature to web site (<http://www.speedsuggest.com>);
  - Wikipedia Suggest : a Google suggest like service (<http://suggest.wikipedia.org>);
  - libsocket : a c++ generic socket implementation (<http://happycoders.org/software/libsocket.php>);
  - Cross compilation environments : ([http://julien-lemoine.com/cross\\_compilation](http://julien-lemoine.com/cross_compilation));
  - others libs and tools available on <http://happycoders.org/software/>;
  - OrgaDoc : Documentation management software (Eiffel/Gobo);
  - Marmot : XML parser generator (C++/STL).

## Formal Education

1999-2003	<ul style="list-style-type: none"><li>• EPITA (École pour l'Informatique et les Techniques Avancées) Paris, well-known specialists French School of Computer Science and Engineering. (equivalent to MSc in Computer Sciences) with a specialization in artificial intelligence. Received honors and distinctions of the jury as the summa cum laude graduate</li></ul>
1999	<ul style="list-style-type: none"><li>• General Certificate of Education in Science (high school diploma with an emphasis on Science with distinctions).</li></ul>

## Other activities

- Practice of jogging, skiing and trekking