

*Curriculum Vitæ*

# **Yann Esposito**

*Expert en Machine Learning*

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## Professional Background

2010→ 2007→ 10/2006→3/2007 10/2004→9/2006 10/2001→9/2004 1995→2000	Co-Founder of GridPocket, AirFrance, Post Ph.D., Hubert Curien Laboratory, ATER (College Degree Teach & Research), University Monitor (College Degree Teach & Research), Miscellaneous summer jobs
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## Education

2004	CS Ph.D. in Machine Learning at Université de Provence
2001	D.E.A. (Equivalent to Master in Computer science)
2000	Maîtrise in Computer Science
1999	Licence in Computer Science
1998	DEUG MIAS (Math)
1995	BAC S (Math)

## Research Activies: Publications

<i>International Journal</i>	[Fundamenta Informaticæ, 2008] [PatternRecognition, 2004]
<i>Internation Conferences</i>	[ECML 2008] [ICGI 2006] [COLT 2006] [COLT 2004] [ICALP 2003] [ICGI 2002]
<i>National Journal</i>	[JEDAI 2002]
<i>National Conferences</i>	[CAp'06] [CAp'04] [CAp'03]

## Softwares

GridPocket server architecture	API (Ruby/Rack/JSON/REST)
GridPocket Web Client	Full Javascript (jQuery) Web client
GridPocket iPhone app	(Objective-C/Cocoa) client
SEDiL	Learn Tree Edit Distances (Java/Swing)
DEES	Multiplicity Automata/HMM (C++/STL)

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## What did I done?

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- Written a thesis in Machine Learning about Probabilistic Automata Inference.
- Published results about this thesis in major international conferences: [ICALP2003], [COLT2004] & [COLT2006].
- DEES: a 10.000 line C++ command line program. This program implement most **HMM** standard algorithms & inference algorithms.
- **SeDiL**: a Java application using Swing UI. The goal is to provide biologist an easy way to use an algorithm that generate Similarity Matrices for strings but also for Tree structures. Most graphics was done by me, including the drawing of trees. I didn't used a library for that purpose.
- An API oriented Ruby framework. For now it is not public.
- For GridPocket I have made two private API server. They manage Electric consumption information.
- I have made a full javascript oriented website to display Electric consumption in real time.
- **krambook**: the engine I use to create this document. I exported it in HTML, PDF (using  $\LaTeX$ ) and SVG.
- Many other things, like some small Mac OS X screensaver, a MetaPost plugin to draw Automata, an RFC-like document to help my student to make a TOR like network, etc...

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## 3 I tried many computer things

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**Object Orient Languages** Ruby, Objective-C, Javascript, Perl, C++, Java, Python, PHP

**Web** Ajax (xmlHttpRequest, prototype.js, jQuery, scriptaculous...), XML, JSON  
Ruby (nanoc), PHP/MySQL, Python (Django), REST, SOAP, XML-RPC

**Norms** HTML, XHTML, CSS, SVG

**Libraries (API)** C++(STL), Java (Swing/Java 2D), Python (PySQLite, wxPython, crypto, socket), Objective-C (Cocoa, iOS, Core Data, Quartz Composer, Core Plot, ASI HTTP Request)

**Languages** C, camL

**Unix** Shell scripts (zsh, bash), awk, L<sup>A</sup>T<sub>E</sub>X, ConTeXt, metapost

**Conception methodology** UML, Merise

**IDE** XCode, Environnement Unix (make, gcc,...)

**Data Mining Tools** Enterprise Miner (SAS), weka, SVMlight

**Version Control Tools** git, Bazaar (DCVS), subversion (svn), CVS

**Programming environments** Mac OS X, Unix/Linux (Solaris, Ubuntu, Debian), WindowsXP

**UI** jQuery, scriptaculous, prototype.js, Java Swing, wxPython, Cocoa

**Network protocols** Ethernet, TCP/IP, UDP, FTP, DNS, DHCP

**Network tools** ifconfig, tcpdump, wireshark (ehtereal),lsof...

**Security** AES, DES, 3DES, Hamming, PGP, GPG...

**Databases** DataMapper (Ruby ORM), MySQL, PostgreSQL, SQLite

**4.1 Co-Founder & freelance for GridPocket 2010** →

Sophia Antipolis, France

**Product** Two API server (one for client, another for administration)

A private client side web application

An iPhone Application

Some Linux boxes to send data to the servers

**Role** Full technical responsibilities

**Technical Keywords:** Ruby, REST, JSON, HTML, CSS, Javascript, AJAX, jQuery, Objective-C, ASIHTTPRequest, CorePlot, CoreData

**4.2 AirFrance 2007** →

Consultant

**Role** In charge of the Airfrance CMS for their website.

**Technical Keywords** TeamSite, Perl, XML, XHTML, CSS, javascript, JSP, Unix (Solaris/Linux), Bazaar

**Environnement** Windows (Cygwin), Sun Solaris, Linux

**4.3 Post Ph.D 10/2006** → **3/2007**

Université Jean Monnet, Laboratoire Hubert Curien, Saint-Etienne

**Product** SeDiL

**Role** Developer

Details

Java application: *11 000 lines with javadoc*

Main functionalities

- learn edit matrices
- compute edit distances between trees or strings

- visualize trees or sequences (JAVA 2D)
- classification using K means
- Generate random tree couple from an edit distance matrice

Web: <http://labh-curien.univ-st-etienne.fr/SEDiL/>

Research

Similarity measure between strings or XML trees

**Contact** Marc Sebban

**Technical Keywords** UML, Java 1.5, Swing, Java 2D, Java Web Start, Applet, subversion, XML, XHTML, PHP

**Environnement** Mac OS X, Linux (Debian), Windows XP

#### 4.4 **ATER** 10/2004 → 9/2006

Research & Teacher, Université de Provence, Marseille

*teach 1/2, research 1/6, C++ development 1/3*

DEES ; a C++ software

*7500 lines of C++ code, 10.000 with comments*

Main functionalities:

- Multiplicity Automata, HMM & PDA Inference,
- Baum Welch & Viterbi Algorithms,
- GraphViz export,
- String Generation from many Models,

**Languages** C++

**API** STL

**Environment** Linux (Debian) & Windows XP

#### 4.5 **Moniteur des Universités** 10/2001 → 9/2004

Université de Provence, Marseille

*teach 1/3, research 1/3, C++ Development 1/3*

Creation of DEES (see preceding entry).

- *2004* CS Ph.D. degree in Machine Learning
- *2001* D.E.A. in Computer Science (equivalent to master)
- *2000* Maîtrise d'Informatique
- *1999* Licence in Computer Science
- *1998* DEUG MIAS (math)
- *1995* BAC S (math)

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# Scientific Publications

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## **International**

**Journals** [FundamentaInforamticævol.862008] [PatternRecognition,2004]

**Conferences** [ECML2008] [COLT2006] [ICGI2006] [COLT2004] [ICALP2003]  
[ICGI2002]

**Workshop** [TAGI05]

## **National (French)**

**Journals** [JEDAI,2003]

**Conferences** [CAP2006] [CAP2004] [CAP2003]

**Thesis** [UniversitédeProvence2004]



**YPassword 2008** →

Many different application to manage passwords. The iPhone application should be soon finished. But there is also:

- a Mac OS X dashboard widget,
- a Cappuccino Web application,
- a jQuery Web application,
- a command line tool,
- an Applescript helper

**Rubyzome 2009** →

Ruby API oriented framework. Done with Luc Juggery. This framework is REST oriented and output can be either JSON (preferred), but also XML or HTML.

**Anonymous Network Project 02/2006** → **06/2006**

Made a protocol similar to **TOR** for student.

**Some other things**

- Web Application used for private team usage at AirFrance 2008 →  
This application is just done *for teh lulz*. Not related to the Airfrance work.  
But still pleasant.  
*Javascript(Prototype.js, Scriptaculous), CSS, PHP/MySQL, Google Talk*
- metapost package to draw Automata 2003 → 2004  
*%metapost*
- Mac OS X Screensavers 2003 → 2004  
*Objective-C, Quartz Composer, Cocoa*