Maurin NADAL

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Work Experience

- **2014 - Present - R&D engineer at Yseop (Lyon) centered on a Natural Language Generation software**
  - Designed and built Yseop Savvy core architecture and conducted the whole mathematical analysis. Aimed to analyze raw data and identifiy key facts in any kind of data. Real time answer (less than 100ms in average) and fully extensible for further enhancements.
  - Specified a new Natural Language DSL system and realized some of the core modules : code parser, expression path translator. An intelligent auto-completion system automatically provides interesting expression paths and translate them in natural language. It allows novice users to easily write on their own rules and actions.
  - Merged 2 old C compilation chains (for MSVC and gcc) in one using CMake. Strong factorization (3 times less code-line). Fully cross platform (no more duplication).

- **2008 - 2015 - Engineer and Partner for a decision-making software with Robert MICHIT (MC2R)**
  - Modeled the Triades method in a computer science way. This model allow novice users to apply the Triades method to understand more widely any problematic situation and to identify root problem location.
  - Realized the software from scratch to final client delivery (with installer and documentation).
  - Provided support for our main client, the *Childhood Links* European Project.

- **2011 - 2013 - Teaching assistant at ENSEIRB-Matmeca in computer science (C, Algorithmic and Data Structures)**

- **2010 - 2011 - Teaching assistant at Bordeaux 1 University**

- **Summer 2010 - Research Master internship at ENSC-laboratory on the enhancement of a conditioning model based on Bayesian networks**
  - Specified a computational system to add a temporal dimension to conditional probabilities.
  - Implemented a Bayesian Network based on this system to build a conditioning model.

Education

- **2010 - 2013 - PhD in Computer Science directed by Guy Melançon at LaBRI (Bordeaux Computer Science Lab) on the subject: Assisting a novice user in graph drawings with Machine Learning methods**

- **2009 - 2010 - Research Master at Bordeaux 1 University: Algorithms and Formal Methods, major in Computer Science**

- **2007 - 2010 - Engineering school in computer Science at ENSEIRB-Matmeca (Bordeaux) with a parallelism and high performance computation specialization**

Skills

Languages:

- **English Full Professional Proficiency**
- **French Native Proficiency**

Computer Science :

- **Proficient in C/C++ and Java**
- Known languages : SQL, XML (XSLT, XPath), Javascript
- **Field of expertise**
    - Machine Learning (Genetic Algorithm, Neural Network and conditioning)
    - Compilation (Unix)
    - Architecture
    - Algorithms and Data Structure
    - Parallelism
    - Specification Writing
    - Network (Classic socket and GWT)
    - Graphical User Interface (mostly on Java with Swing)
    - Network management and sysops (Unix based only)

Main Projects

- **GenLib & GenetipsMonitor:** Client/Server software to design, test and compare **Genetic Algorithm Structures**. All computations are done **remotely** on C++ application. A server is used for **logging** and task **ordonancing** (Java) configured remotely by an heavy client (Java). Project realized during my **PhD**.
- **CampPlanner: Camping management** software in Java. Allow to manage **bookings** and **sales** and automatize data exportation to **accountability** system. Multi-client application based on a MySQL-database.
- **Triades:** Decision making support software based on the Robert Michit's Triade method. **Java application** centered around a **graph schematization** system designed to **model relationship** in any kind organization (company, association, social care organization)
- **Minor projects: BetaPat (**genetic algorithm based gait learning), physic motor, several **neural network models,** simple games

Get more information about my projects and papers on my website : www.nadalem.fr

Research Papers

- Maurin NADAL. **Assistance à l'utilisateur novice dans le cadre du dessin de graphe à l'aide de méthode d'apprentissage,** PhD Thesis, 2013. (Assisting novice user in drawwing a graph with machine learning methods)
- Maurin Nadal, Guy Melançon. **Reusable genomes : Welcome to the green genetic algorithm world.** 2013.
- Maurin Nadal, Guy Melançon. **One Graph, Multiple Drawings.** 2013 17th International Conference Information Visualisation (IV), Jul 2013, London, United Kingdom. pp.416 - 421, 2013.
- Maurin Nadal, Guy Melançon. **Dessin de graphe assisté par un algorithme génétique.** MajecSTIC 2012, Oct 2012, Villeneuve d'Ascq, France. (Graph drawing guided by a genetic algorithm)

References

PhD Director, Guy Melançon
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