Mathieu Nayrolles

BSc, MSc, Ph.D Student

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Education

2014–2018 **Ph.D in Electrical and Computer Engineering**, *Concordia*, Montréal.
Thesis: Software Maintenance At Commit Time

Ubisoft, Montréal - Canada
As a member of the La Forge research Lab I create machine learning algorithms to prevent the introduction of new defects in large scale software systems.
○ Technos: Deep learning, GoLang, R, Git, P4, Big Data, Angular

Ericsson, Stockholm - Suède As a member of the Radio System & Technology Software research Lab I have created tools and approaches for the automated reproduction of software bugs and crashes.
○ Technos: Java, Model Checking, NoSQL, Data Mining, R

DRDC, Québec - Canada Within the framework of a project aiming to detect unauthorized access to software systems, I provided technical support to the Software Behaviour Lab for the creation of an open-source prototype (TotalADS).
○ Technos: Java, MongoDB, Compass, Machine Learning

2011–2013 **Master in Computer Science**, *UQAM*, Montréal.
Thesis: Improving SOA Antipatterns Detection in Service Based Systems by Mining Execution Traces

2010–2013 **Master in Software Engineering**, *Superior School of IT. CESI.eXia*, Aix-En-Provence, France.
Thesis: Problem resolution inspired by Nature.

2008–2010 **Bachelor in Software Engineering**, *Superior School of IT. CESI.eXia*, Aix-En-Provence, France.

Teaching

2015–Present **Lecturer**, *ÉTS*.
○ Programmation orientée objets (INF111)
○ Informatique (TCH010)
○ Bases de données (TCH054)

2015–2017 **Speaker**, *eXia.Cesi Software Engineering School*.
As a speaker, I give specialized lectures (from 4 to 18 hours) on the following subjects: Graph Theory, OOP, AI, Node, Design (anti-)pattern, SOA, Machine Learning

2014–2014 **TA**, *Concordia*.
○ Tools and Techniques for Software Engineering (COMP5541)
○ Software Design Methodologies (SOEN6461)

2012–2013	**TA**, *UQAM*.

- Programmation II (INF2120)
- Méthodes agiles (INF2015)
- Outils de bureautique, logiciels et Internet (INF1026)
- Génie logiciel: conception (INF5153)
- Bases de données (INF7115)
- Fichiers et bases de données (INF3180)

Experience

Jan 2011 – Sept 2012   **Technical Manager Assistant**, SAINT-GOBAIN, Paris.

As a member of the Business Application Team of Saint-Gobain – the world 1st company in habitat market –, I successfully complete two missions within the framework of European projects. (1) ERP module development for real time logistics tracking of insulating glass unit and invoicing interfaced with an MES & SAP. (2) Distributed resources management system development allowing the control of the automatic feeding of glass on a production line for insulating glass.

Technos: Java (tcp-ip, rmi, soap), JEE (Struts), Tomcat 5.5, Hibernate, Oracle 9i

Apr 2010 – Sept 2010   **Analyst Programmer**, CODINFO, Paris.

Included in the R & D Department of Codinfo, a company providing Online real-time point of sales solutions, I developed of a loyalty system for multi-brand multi-store & mono-brand multi-store with approach *Software as a Service & plug-in*.

Technos: PHP, Zend Framework, PL/SQL, PostgreSQL, Apache, Java Applet

Aug 2008 – Dec 2011   **Analyst Programmer**, EADS-EUROCOPTER, Marignane.

Within the change management department of the world 1st chopper manufacturer, I created a web portal allowing the creation of Office 2007 & PDF files for the management of the civil aircraft modification with an associated digital workflow.

Technos: PHP, Apache, IIS, ASP.NET, VB, C# xhtml, JavaScript, SQL Server, XML

Publications

Referred Journals

- Nayrolles, M. , Hamou-Lhadj, W., Tahar, S. & Larsson, A. (2016). A Bug Reproduction Approach Based on Directed Model Checking and Crash Traces. Journal of Software: Evolution and Process. Wiley. (Accepted For Publication).,
- Nayrolles, M. , Palma, F. & Moha, N. (2013). SOA Antipatterns : An Approach for their Specification and Detection. International Journal of Cooperative Information Systems. (pp. 1-40).

Books

- Nayrolles, M. (2018) Angular2 - Designs Patterns and Good Practices. (pp. 280). Packt
- Nayrolles, M. (2017) Mastering Angular. (pp. 310). Packt Publishing., Publishing.,
- Nayrolles, M. (2015). Magento Site Performance Optimization. (pp. 92). Packt Publishing.,
- Nayrolles, M. (2015). Xamarin Studio for Android Programming: A C# Cookbook. (pp. 298). Packt Publishing.,
- Nayrolles, M. (2014). Mastering Apache Solr. Inkstall Publishing. (pp. 152). Inkstall Publishing.,
- Nayrolles, M. (2013). Instant Magento Performance Optimization How-to. (pp. 56). Packt Publishing.

Referred Conferences Presentations

○ Nayrolles, M. & Hamou-Lhadj, W. (2016). BUMPER: A Tool to Cope with Natural Language Search of Millions Bugs and Fixes. International Conference on Software Analysis, Evolution, and Reengineering (SANER'16). IEEE.,

○ Nayrolles, M. & Hamou-Lhadj, W. (2015). BUMPER: Bug Metarepository Search Engine for Developers and Researchers. Consortium for Software Engineering Research Fall .,

○ Maiga, A., Hamou-Lhadj, W., Nayrolles, M. , Sabor, K. & Larsson, A. (2015). An Empirical Study on the Handling of Crash Reports in a Large Software Company: An Experience Report. International Conference on Software Maintenance and Evolution (ICSME). (pp. 342-351). IEEE.,

○ Nayrolles, M. , Hamou-Lhadj, W., Tahar, S. & Larsson, A. (2015). A Bug Reproduction Approach Using Crash Traces and Directed Model Checking. International Conference on Software Analysis, Evolution, and Reengineering (SANER'15). (pp. 101-110). IEEE. Best Paper Award.,

○ Nayrolles, M. , Moha, N., Valtchev, P. & Hamou-Lhadj, W. (2015). Towards Quality-Driven SOA Systems Refactoring through Planning. E-Technologies. (pp. 269-284). Springer.,

○ Moha, N., Palma, F., Nayrolles, M. , Joyen-Conseil, B., Guéhéneuc, Y., Beaudry, B. & Jézéquel, J. (2014). Specification and Detection of SOA Antipatterns. In International Conference on Service Oriented Computing. (pp. 1-16). Springer. Best Paper Award - Runner-up.,

○ Nayrolles, M. , Palma, F., Moha, N. & Guéhéneuc, Y. (2014). SODA : A Tool Support for the Detection of SOA Antipatterns. International Conference on Service Oriented Computing LNCS 7759. (pp. 451-456). Springer.,

○ Nayrolles, M. , Moha, N. & Valtchev, P. (2014). Improving SOA Antipatterns Detection in Service Based Systems by Mining Execution Traces. Working Conference on Reverse Engineering. (pp. 321-330). IEEE.

Awards

2017	Natural Sciences and Engineering Research Council of Canada Engage Grant In collaboration with Dr Hamou-Lhadj. **$25,000**
2016	Concordia Merit Scholarship for Outstanding Academic Achievement and Excellence **$15,000**
2016	Quebec Merit Scholarship program for Foreign Students **$25,000**
2016	Concordia University Conference and Exposition Award **$1,500**
2015	Best-Paper Award @ SANER'15
2015	Mitacs Accelerate In collaboration with Dr Hamou-Lhadj **$15,000**
2014	Concordia Merit Scholarship for Outstanding Academic Achievement and Excellence **$15,000**
2012	Best Paper Award - Runner up - ICSOC'12
2011	EXIA.CESI Game Jam Finalist