

Antonio Cansado

PhD in Computer Science

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Nationality: Chilean, Spanish

Date of Birth: Feb 12th, 1981



Language Proficiency

Spanish	Native Speaker	English	Fluent
Portuguese	Native Speaker	French	Advanced

Education

- 2005–2008 **PhD in Computer Science**, *Université de Nice-Sophia Antipolis, INRIA*, Nice, France.
Software Engineer – Formal Specification and Verification of Distributed Components
- 2004–2005 **Master in Computer Science**, *Pontificia Universidad Católica*, Santiago, Chile.
Artificial Intelligence – Flaw/Fraud Detection in Large Databases
- 1999–2005 **Engineer in Computer Science**, *Pontificia Universidad Católica*, Santiago, Chile.
- 1997–1998 **International Baccalaureate in English**, *The Grange School*, Santiago, Chile.
- 1997–1998 **Secondary School**, *The Grange School*, Santiago, Chile.
British school following the International Baccalaureate programme
- 1988–1996 **English Course**, *Britannia – British Institute*, Rio de Janeiro, Brazil.
- 1985–1996 **Primary and Secondary School**, *Colegio Anglo-Americano*, Rio de Janeiro, Brazil.

Experience

- 2005 **Chief Engineer**, *M.D. Consultores*, Santiago, Chile.
Joint project with the “Dirección General de Aeronáutica de Chile”. Design of an Air Traffic Control software mixing data from GPS and traditional radar. Fully developed in C++
- Summer 2004 **Trainee**, *M.D. Consultores*, Santiago, Chile.
Project of the “Fuerza Aérea de Chile”. Conversion of a concurrent and distributed simulator from IRIX to Linux. Fully developed in C++
- H1 / 2003 **Developer/Trainee**, *ITEC*, Santiago, Chile.
Web application based on PHP/MySQL
- 2003 **System Administrator**, *Centro de alumnos Universidad Adolfo Ibáñez*, Santiago, Chile.
Design and maintenance of homepage
- Winter 2003 **Trainee**, *Caja Reaseguradora de Chile S.A.*, Santiago, Chile.
Analysis and development of a tool for the governmental normative of the Value At Risk

Honors, Prizes

- 2008 **High Distinction**, *Université de Nice-Sophia Antipolis*, Nice, France.
PhD in Computer Science
- 2005 **PhD Scholarship**, *CONICYT and INRIA*, Santiago, Chile.
- 2005 **Maximum Distinction**, *Pontificia Universidad Católica*, Santiago, Chile.
Master in Computer Science
- 2005 **Maximum Distinction**, *Pontificia Universidad Católica*, Santiago, Chile.
Engineer in Computer Science
- 2004 **First Prize**, *INRIA/ETSI*, Sophia Antipolis, France.
NQueens Grid Computing Contest

Main Skills

Languages	C/C++/C#, Java, PHP, SQL	IDEs	Eclipse, .NET, Kdevelop
Op.Systems	Linux, Windows, OS X	Administration	Server Set-up and Maintenance
Soft.Engineering	Formal Verification, UML 2, Protocols	Data-mining	Bayesian Networks, Clustering

PhD Thesis

Title *Formal Specification and Verification of Distributed Components*

Description Systems based on components (or services) seek the reuse of software modules for reducing costs and ensuring high-quality. However, for guaranteeing a sound assembly, a specification of the dynamic system behaviour must be provided such that it can be subject to exhaustive verification against user requirements. This thesis develops a formal specification language that aims at (i) system verification and validation by means of model-checking, and (ii) generation of Java code with strong guarantees.

Master Thesis

Title *Unsupervised Anomaly Detection Using Bayesian Networks and Gaussian Mixtures*

Description Analysing huge databases is time consuming and often computationally unfeasible. This thesis develops an efficient data-mining tool for the unsupervised detection of anomalies in databases. A probabilistic network is found expressing the dependencies between attributes, then it is used to automatically select instances of the database with unique traces. The methodology can be used to automatically find frauds, flaws, and unique objects in extremely large databases without supervision nor domain knowledge.

Publications

- S. Ahumada, L. Apvrille, T. Barros, A. Cansado, E. Madelaine, and E. Salageanu. Specifying Fractal and GCM Components With UML. In *XXVI Inter.Conf. of the Chilean Computer Science Society(SCCC'07)*, Chile, Nov. 2007. IEEE.
- T. Barros, R. Boulifa, A. Cansado, L. Henrio, and E. Madelaine. Behavioural models for distributed Fractal components. *Annals of Telecommunications*, accepted for publication, 2008. also Research Report INRIA RR-6491.
- T. Barros, A. Cansado, E. Madelaine, and M. Rivera. Model checking distributed components : The Vercors platform. In *3rd workshop on Formal Aspects of Component Systems*, Prague, Czech Republic, Sep 2006. ENTCS.
- A. Cansado, D. Caromel, L. Henrio, E. Madelaine, M. Rivera, and E. Salageanu. *A Specification Language for Distributed Components implemented in GCM/ProActive*. Lecture Notes in Computer Science. Springer, Apr. 2008.
- A. Cansado, L. Henrio, and E. Madelaine. Towards real case component model-checking. In *5th Fractal Workshop*, Nantes, France, Jul 2006.
- A. Cansado, L. Henrio, and E. Madelaine. Transparent first-class futures and distributed components. In *5th Workshop on Formal Aspects of Component Systems*, Málaga, Spain, Sep 2008. ENTCS.
- A. Cansado, L. Henrio, and E. Madelaine. Unifying architectural and behavioural descriptions of distributed components. In *5th Workshop on Formal Aspects of Component Systems*, Málaga, Spain, Sep 2008. ENTCS.
- A. Cansado and A. Soto. Unsupervised anomaly detection using bayesian networks and gaussian mixture models. In *Journal on Applied Artificial Intelligence*, 2008.
- M. Carrasco, A. Cansado, and A. Soto. Detección de patrones de fallas utilizando técnicas de análisis no supervisado. In *XIII Encuentro Chileno de Computación (ECC2005)*, Universidad Austral de Chile, Valdivia, Chile, Nov 2005.
- A. Soto, A. Cansado, and F. Zavala. Detection of rare objects in massive astrophysical data sets using innovative knowledge discovery technology. In *Astronomical Data Analysis Software & Systems Conf. Series, ADASS*, 2004.

References

- Mr. Ariel Arancibia
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