

# Hernán Astudillo

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## PROFESSIONAL SUMMARY

Hernán Astudillo is a Software Architect and object-oriented designer, at home with enterprise application integration (EAI), analysis and design methods (OOAD), and several programming languages (OOP). He has extensive hands-on experience with *application architecture*, *distributed object systems* (CORBA and otherwise), *O-O techniques* (for analysis, design, programming and project management), *O-O CASE tools*, *fast prototyping*, and *systems programming*. Some business functions he has helped to automate are: *inter-bank payments*, *sales commission payment*, *health provider claims processing*, *reinsurance underwriting*, and *remote e-publishing of expert knowledge*. Some technologies he has deployed are: *web and XML*, *CORBA systems*, *centralized and distributed RDBs*, *object-oriented databases*, *distributed objects* (using C++, Smalltalk, Java and CORBA), *Internet publishing*, *development toolkits*, and *user-interface management systems* (including X Windows and interface prototyping tools).

Mr. Astudillo has done research, teaching and publication in several areas of IT, including software architecture, software engineering, systems analysis and design, software reuse, programming language design, distributed databases, and object-oriented databases; and in past lives, queuing theory, discrete-event simulation, and parallel programming editors. He participated in the UML definition and related OMG activities. His main interests and recent work are *software architecture* (for both applications and distributed objects) and *object-oriented development processes*.

Mr. Astudillo got his Informatics Engineer degree in Chile, and a Ph.D. from the Georgia Institute of Technology, with a Computer Science major and a Management minor. He specialized in Object-Oriented Software Engineering, and wrote his thesis on restructuring of object-oriented libraries with a biological metaphor.

Mr. Astudillo speaks fluent Spanish and Portuguese, is comfortable with travel, and makes an awesome espresso.

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## KEY JOBS SUMMARY

(See detailed projects under 'Projects').

- 2003 – on**     *Profesor, Universidad Técnica Federico Santa María, Valparaíso, Chile*  
(Departamento de Informática)  
Member of the Software Development area; performing research and graduate lecturing on software architecture, software engineering and distributed object technology; also collaborating actively in interdisciplinary industry-academia projects.

- 2001 – 2003** *Sr. Application Architect, Financial Systems Architects (FSA), New York*  
Application architect in several projects for large financial institutions, developing 'as-is' and 'to-be' architectures (both business level and technically detailed); key projects include securities broker/dealer support, messaging technology wholesale replacement (VAX-TMX), and global funds transfer network replacement.
- 2002 – 2003** *Free lance professor, Spain and Brazil*  
Preparer and instructor of several graduate-level courses (of software architecture and of critical reading of scientific literature), in Madrid and São Paulo.
- 2000 – 2001** *Chief-Architect, Soluciones S.A., Chile.*  
Lead architect of extended product line for web-, WAP-, B2B-enabled CRM center. Also technology evaluation and oversight of web projects.
- 1998 – 2001** *Professor-Doutor, Universidade de São Paulo, Brasil (Departamento de Ciência de Computação, Instituto de Matemática e Estatística)*  
Founding member of the Software Engineering area; performed research and graduate lecturing on software architecture and distributed object technology.
- 1996 – 1998** *Lead Architect of the Objects Global Practice, MCI Systemhouse (later acquired by EDS) (Earlier Sr. Technical Architect at the DelTA Group).* Auditing, oversight and/or lead architect in several projects of distributed objects and/or enterprise integration; see detailed projects below. Also methodological work, including participation in the initial UML definition.
- 1994 – 1995** *Instructor, Georgia Institute of Technology*  
Programming Languages courses.
- 1989 – 1995** *Graduate Student and Project/Research Assistant, Georgia Institute of Technology*  
Performed research in object technologies (languages, databases, distributed). Participated in several projects, including externally-funded technological proofs-of-concept, research-oriented proof-of-concept in O-O class libraries and parallel programming environments; see detailed list below.
- 1987** *Instructor, Universidad Técnica Federico Santa María, Valparaíso, Chile*  
Introductory Programming courses.
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## EDUCATION

- **Ph.D. Information and Computer Science (1996)**  
Georgia Institute of Technology, Atlanta, GA
  - **M.Sc. Information and Computer Science (1990)**  
Georgia Institute of Technology, Atlanta, GA
  - **Ingeniero Civil Informático (1988)**  
(equivalent to Informatics Engineering Professional Degree with thesis)  
Universidad Técnica Federico Santa María, Valparaíso, Chile
  - **Licenciado en Informática (1987)**  
(equivalent to B.S. Information and Computer Engineering)  
Universidad Técnica Federico Santa María, Valparaíso, Chile
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## KEY PROJECTS

- Virtual distributed multi-institutional multi-media heritage archive (9/2002-on)

At a consortium of Chilean heritage archives, Mr. Astudillo is defining and supervising the architecture and construction of a unified description (schemata) and access mechanism (portal); the proposed system is a distributed, multi-institutional, multi-media, virtual archive, using XML- and portal-based technologies with Dublin Core-based library standards.

- Global funds transfer network replacement (8/2001-8/2002)

As a *Sr. Application Architect* at *Financial System Architects* for the Global Funds Transfer Network Replacement initiative, a port from VAX-TMX to Solaris+Oracle, including Messaging and Fed/CHIPS interfacing.

- Securities settlement replacement (12/2000-3/2001)

As a *Sr. Application Architect* partnering with *Financial System Architects*, elaborated as-is and to-be architectures for the securities trading **Broker/Dealer Support**, from VAX-TMX to Solaris; solution separates key transactional components and allows replication for fault-tolerance, load-balancing and white labeling.

- Overland trip (6/2001-7/2001)

At his own behest, Mr. Astudillo crossed South America by land, and he consigned it here to avoid the dreaded 'resume gap'.

- m-Engage (web-, WAP-, B2B-enabled CRM suite) (3/2000-6/2001)

At a Chilean startup, Mr. Astudillo defined the architecture and technologies to extend an existing CRM product into a product line with web-, WAP- and B2B capabilities. Mr. Astudillo remains involved as a shareholder.

- Graduate Research, Teaching and Advising (8/1998-6/2000).

As a *Professor-Doutor* at the *Computer Science Department, University of São Paulo, São Paulo, SP, Brazil*, Mr. Astudillo performed research (focused in software architecture, object systems and requirements engineering) with graduate students. He also taught graduate classes in these areas. He is still thesis advisor (2000) of some M.S. students.

- SIDAM (Sistema de Informação Distribuido para Agentes Móveis) (5/1998-3/2000).

At the *Computer Science Department, University of São Paulo, São Paulo, Brazil*, Mr. Astudillo was part of the SIDAM team, and helped define the architecture for a testbed system to allow deployment and experimenting of alternative protocols, policies and configurations for large mobile distributed systems.

- Info.Cultura (9/1998-9/1999).

At the *Computer Science Department, University of São Paulo, São Paulo, Brazil*, Mr. Astudillo was part of the Info.Cultura team, an inter-disciplinary group drawn jointly from the computer science and journalism schools. He lead the development of a prototype of a web-based registry of heritage places and agrupations across Brazil.

- Architecture methodology for distributed object systems (6/1998-8/1998).

At the *MCI Systemhouse Object Global Practice*, Mr. Astudillo co-authored a **methodology and templates** for definition and delivery distributed object systems. His contribution focused on the architecture definition task, and on the architect's role in a project. The effort outcomes include an architect's primer and some innovative notations, to be presented at industry workshops and conferences in short term.

- High-availability distributed payments system (5/1998-8/1998)

At a large U.S. bank on behalf of MCI Systemhouse, Mr. Astudillo was the *lead architect* in the design of the **U.S. Treasury Cash-Link**, which aimed to automate payments by commercial banks to U.S. federal agencies. The project addressed the need to *decentralize payment processing* to the proper Fed branch, and of *immediate reporting* for positioning and forecasting. The project outcomes include a distribution architecture, consisting of a high-availability **payments mediator** (OLTP-like, distributed, replicated and load-balancing), and a high-capacity **historical analysis center** (centralized and fault-tolerant).

- Reinsurance risk evaluation system (12/1997-5/1998)

At the largest U.S. reinsurance company on behalf of MCI Systemhouse, Mr. Astudillo was the *lead architect* in the **Knowledge Based System** project, which aimed to facilitate delivery of reinsurance expert medical knowledge to third-party underwriter desktops. The project addressed two bottlenecks: *reuse of medical knowledge across multiple products* (each with a manual, wizards and workflow description), and *delivery of multiple products* in a common "underwriter workstation". The project outcomes included a prototype and a long-term architecture, consisting of a **collaborative medical modeling and publishing** tool, and a **common workstation with product-specific workflow models**.

- Sales commissions system (2/1997-3/1998)

At a large long-distance phone company on behalf of MCI Systemhouse, Mr. Astudillo was *chief architect* in the **Project X**. The system facilitates the payment of **sales commissions** to the client's sales force, satisfying three key stakeholders: marketing (writing compensation plans), HQ personnel (maintaining a sales assignments model), and payroll (producing periodic statements using the plans and assignments to process ~1TB of revenue data feeds).

His project-related outcomes included: (as chief architect) exercised *general technical oversight* and

assessed *technical risk*; (as application architect) identified key technical issues, defined the *application architecture*, and *coordinated development work allocation*; and (as object architect) designed and built the key subsystem to describe compensation plans, which included an ad-hoc language ("BOMscript") and associated tools (compiler and meta-modeler).

- MCI Systemhouse methodological efforts (9/1997-9/1998)

Mr. Astudillo participated actively in an internal **Object-Oriented Methodology Task Force**, formed to define an object-oriented methodology for object-oriented projects. The results remain internal to the company.

- Large health insurer claims processing (8/1997)

Mr. Astudillo participated in the initial design for a Blue Cross/Blue Shield, aiming to migrate its mainframe-based COBOL systems into an O-O client-server system. Project outcomes included a *long-term system architecture* and a *migration path*. The proposed system included a mainframe-sized scale **workflow engine**, preserving the client's investment in existing core systems yet re-deploying auxiliary functions in an object-oriented client-server model.

- Applied research with the CMU's Software Engineering Institute (7/1997-12/1997)

Mr. Astudillo participated in an R&D initiative aimed to define a single **Architecture Handbook** and **Architect Starter Kits**, for company-wide use by application architects in future projects. The initiative included collaboration with the CMU's SEI.

- Large bank Profitability Reporting Facility (2/1997)

Mr. Astudillo performed an *architectural review* and *detailed subsystems design* (particularly Security) for a PRF. Involved technologies included DCE in a 3-layers O-O system.

- UML definition and OMG submission (9/1996-1/1997)

Mr. Astudillo was part of MCI Systemhouse's team that helped to define the **UML (Unified Modeling Language)** and its subsequent submission to the OMG as standard for Object CASE modeling. The project team suggested notation changes and additions to accommodate the modeling of *distributed and fault-tolerant systems*, particularly of CORBA flavor. See resulting publications below, including some white papers are available at the OMG web site.

- OO CASE tool evaluation (6/1996-8/1996)

Mr. Astudillo participated in substantial evaluation of OO CASE tools for adoption as Systemhouse's corporate standard, which involved test-driving several such tools. He also collaborated with an interactive, multi-media *Tutorial on Object-Oriented Design* for online publication.

- Programming Languages instruction ('94-'95 academic year)

As an *instructor* at the Georgia Institute of Technology, Mr. Astudillo gave a quarterly college **Survey of Programming Languages** (CS 3410) course, with full responsibility for contents, preparation and evaluation.

- UI cognitive design tool (Summer '93)

As a *Project Assistant* at the Georgia Institute of Technology, Mr. Astudillo built key pieces of a

multi-person, multi-year **User-Interface Design Environment** to evaluate efficacy of cognitive models to support UI design. He built a central source code repository, and ported (actually, extended) the client-server interface from *library-based* code on Sun's OpenWindows clients to *process-based* code in Siemens' SX/Tools clients.

- Workflow coordination tool (Spring '93)

As a *Project Assistant* at the Georgia Institute of Technology, Mr. Astudillo prototyped the **Knowledge Worker Platform Analysis**, as proof of feasibility for Unix/XView porting of an existing MS-Windows coordination tool. The client agreed to finance the whole port based on this prototype.

- Model derivation automation (1991-1993)

As a *Graduate Research Assistant* for a (semi-) automated support system for **metrics-based derivation** of strongly typed software systems from object-based domain models, Mr. Astudillo researched and built a *Smalltalk testbed* to propose and evaluate derivation criteria and rules, and combined with NeOpus (an *object-oriented rule system*).

- NCR Cooperative Computing Systems Division (Summer '91) -

As an *Intern*, Mr. Astudillo ported the *Security Framework* (a subsystem of "NCR Cooperation" inter-platform **distributed objects environment**) to a Unix platform, documented it from scratch and built additional applications.

- Graphical editor ('89-90 year)

As a *Graduate Project Assistant* for the "Spock" project, Mr. Astudillo built part of, and later extended, an X-based **graphical editor for multiprocessor software** ("BDE"). He also prepared the specification and overall design for GEI, the successor of BDE.

- Object-oriented storage system ('89-'90 year)

As a *Graduate Research Assistant* on object-oriented databases and schema evolution, Mr. Astudillo built a prototype C++ **object-oriented storage system** on top of the (then experimental) Wisconsin Storage System (WiSS).

- Distributed databases queuing simulation ('89-'90 year)

As a *Graduate Research Assistant* on performance evaluation, Mr. Astudillo built a *queuing network discrete-event simulation model* of a **distributed database**. He implemented it on IBM CMS using the RESQ2 language. He also developed and published "Q", a queuing simulation language.

- MIS instructor ('87 year)

As an *Instructor* at the Dr. Jaime Michelow Computer Science School, Mr. Astudillo conducted a yearlong course of **Management Information Systems** to a college 4th-year class. He developed the lecture plan and supervised students in practical training projects.

- Programming instructor ('87 year)

As an *Instructor* at the Universidad Técnica Federico Santa María, Mr. Astudillo taught (two semesters) a course of **Computer Programming** (using Pascal) to college freshmen. He also participated in the draft of a textbook for this course.

- Systems analyst (Summer '87)

As an *Intern* at the National Mining Company, ENAMI, Mr. Astudillo analyzed the *severe chronic overtime* in a **Minerals Purchase Agency**, and found that *the recently adopted computerized system was indeed the root of the problem*, generating additional reporting work. He proposed an integrated solution.

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## PUBLICATIONS

- "*MASPEGHI: MANaging SPEcialization/Generalization HierARCHIES*"  
Marianne Huchard, Hernán Astudillo and Petko Valtchev.  
Workshop organizers report in: J.-M. Bruel and Z. Bellahsene (eds.): **Advances in Object-Oriented Information Systems**, OOIS 2002 Workshops, LNCS 2426, pp.1-2, 2002.
- "*Automatic Generation of Hierarchical Taxonomies from Free Text Using Linguistic Algorithms*"  
Juan Llorens and Hernán Astudillo.  
Technical paper in: J.-M. Bruel & Z. Bellahsene (eds.): **Advances in Object-Oriented Information Systems**, OOIS 2002 Workshops, LNCS 2426, pp.74-83, 2002.
- "*How conceptual systems architecture leads to business processes*"  
Practitioner Report at OOPSLA 2000. Minneapolis, MN (Oct 2000).
- "*Money-Link: Pagamentos remotos confiáveis inter-corporativos*"  
Objetos Distribuidos'98; Segmento de Experiências Práticas. Curitiba, Paraná, Brasil (Dec 1998).
- "*Understanding Architecture: What we do and why we do it*"  
Hernán Astudillo and Stuart Hammer.  
Position paper at OOPSLA 98 Workshop on Architecture as Method. Vancouver, BC, Canada (Oct 1998).
- "*Maximizing object reuse with a biological metaphor.*"  
Theory and Practice of Object Systems (TAPOS), Vol. 3, No. 4 (Fall 1997).
- "*UML Meets CORBA: Design of a fault-tolerant distributed system.*"  
Hernán Astudillo, Dan Uhlar, Andy Trice and Jan Pachel.  
White Paper for SHL TRANSFORM on-line knowledge (Jan 1997).
- "*Example evaluation models.*"  
Hernán Astudillo, Jan Pachel, Andy Trice and Dan Uhlar.  
Attachment B to the Object Analysis and Design Facility (OA&DF) RFP Response Evaluation Guidelines, OMG (Jan 1997).
- "*Methods for Distributed Object Computing.*"  
Cris Kobryn and Hernán Astudillo. Position paper at OOPSLA 96 Workshop on Methods for Distributed Objects, San José, CA USA (Oct 1996).
- "*Reorganizing Split-Objects.*"  
Technical paper at OOPSLA 96, San José, CA USA (October 1996). ACM SIGPLAN Notices, Vol. 31, No. 10 (Oct. 1996), pp.138-149.
- *Evaluation and Realization of Modeling Alternatives: Supporting Derivation and Enhancement.*

Ph.D. thesis (xvi+227pp). College of Computing, Georgia Institute of Technology, Atlanta, GA USA (Mar 1996).

- *"Distinguishing two factors in legacy reuse: 'elegance' and 'appropriateness'."*  
Position paper at OOPSLA 95 Workshop on Object-Oriented Legacy Systems, Austin, TX USA (Oct 1995).
- *"Method Maintenance Issues in Dynamic Object-Oriented Databases"*,  
Hyoung-Joo Kim, Suk-Ho Lee and Hernán Astudillo R.  
Book chapter in: Won Kim, I. S. Paik, Yahiko Kambayashi (eds.): **Database Systems for Next-Generation Applications: Principle and Practice** (Advanced Database Research and Development Series, Vol. 1), pp.42-50, World Scientific Publishing Company, Inc. (1993), ISBN: 9810213158
- *"From Objects to Classes with Small-Time Metrics."*  
Poster presentation at OOPSLA 93, Washington, DC, USA (Sep 1993).
- *"Restructuring of Object-Oriented Systems."*  
Hernán Astudillo and John J. Shilling.  
Paper at the XIII Congreso de Metodologías en Ingeniería de Sistemas, Santiago, Chile (July 1993).
- *"A Model-Based and Direct-Compositional-Based Interface Design Environment: Integration of GaTech's UIDE and Siemens SX/Tools."*  
Piyawadee "Noi" Sukaviriya, J. Muthukumarasamy, Thomas Kuhme, Martin Brenner and Hernán Astudillo (1993).
- *"Knowledge Worker Platform Analysis Final Report."*  
Melody Moore Eidbo, Spencer Rugaber and Hernán Astudillo.  
Technical Report CIMR-93-03, College of Computing, Georgia Institute of Technology, Atlanta, GA USA (June 1993). (U.S. Army Construction Engineering Research Lab.)
- *"Criteria and Operations for Reorganization of Classless Systems."*  
Hernán Astudillo and John J. Shilling.  
Technical Report GIT-CC-91/29, College of Computing, Georgia Institute of Technology, Atlanta, GA, USA (1991).
- *"Supporting Evolution of Delegation-Based Workspaces into Typed Systems."*  
Hernán Astudillo and John J. Shilling.  
Technical Report GIT-CC-91/28, College of Computing, Georgia Institute of Technology, Atlanta, GA, USA (1991).
- *"Q: A Research-Oriented Queuing Network Simulation Language."*  
H. Astudillo and J. Liebeherr.  
Best student paper at the 27th Annual Conference of the ACM Southeast Region, Atlanta, GA, USA (April 1989).
- *"Simulation of Design Issues in Distributed Database Systems."*  
H. Astudillo, I.F. Akyildiz, and E.R. Omiecinski.  
Technical Report GIT-ICS-89-031, School of Information and Computer Science, Georgia Institute of Technology, Atlanta, GA, USA (1989).
- *"Heterogeneous Queuing Systems with Load Dependent Behavior and Different Scheduling*

*Disciplines."*

H. Astudillo and I.F. Akyildiz.

Technical Report GIT-ICS-89-007, School of Information and Computer Science, Georgia Institute of Technology, Atlanta, GA, USA (1989).

- *HIDRO: Interactive Tool to Elaborate and Simulate Agro-Hydrological Models.*

Professional Engineer Degree thesis.

(*HIDRO: Herramienta Interactiva para Elaboración y Simulación de Modelos Agro Hidrológicos.* Trabajo de Título para optar al título de Ingeniero Civil Informático). Universidad Técnica Federico Santa María, Valparaíso, Chile (1988).

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## STUDENTS

### M.S. Graduated

- Ane Varoto (Mar 2002)  
*"Visões em Arquitetura de Software"*  
Mestrado (M.S.), Instituto de Matematica e Estatistica, Universidade de São Paulo, Brasil)
  - Paulo Sérgio Naddeo Dias Lopes (Mar 2002)  
*"Uma Taxonomia da Pesquisa na Área de Engenharia de Requisitos"*  
Mestrado (M.S.), Instituto de Matematica e Estatistica, Universidade de São Paulo, Brasil)
  - Lorena Pereira da Ponte Pierre (Nov 2001)  
*"Transações Web: Analisando Problemas e Soluções"*  
Mestrado (M.S.), Instituto de Matematica e Estatistica, Universidade de São Paulo, Brasil)
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## TECHNICAL SKILLS

### Methodologies and Technologies

- [OOAD] OMT/Booch, Patterns, Frameworks, UML
- [structured] DeMarco, Page-Jones, Jackson
- [distributed systems] CORBA, DNA
- [BDs] SQL, ODBC, mSQL, SQL Server
- [web] ASP, IIS

### Programming languages

- [OOP] Java, C++, Smalltalk, VB
- (also: Modula-2, Modula-3, Eiffel, Self, and various minor OOPLs)
- [procedural] C, Pascal, Fortran
- [functional] Lisp
- [logical] Prolog
- [web] HTML, CSS, VBScript, JavaScript
- [otros] SQL, Unix shell scripting, awk

### Software (toolkits)

- [EAI] MQSeries (now WebSphere MQ), J2EE, web services

- [Web] XML, XSLT, XPath
- [versioning/configuration] RCS/SCCS, PVCS, CVS
- [CORBA] IONA Orbix
- X Windows (mostly Motif and Xt)
- [OO CASE] Rational Rose, Paradigm Plus, SELECT OMT
- [Smalltalk CM] Envy
- [OODB] GemStone
- [web publishing] FrontPage, HomeSite, Dreamweaver
- Emacs (incl. E-Lisp and related utilities)
- [publishing] TeX/LaTeX

## Platforms

- Unix (Sun OS, Solaris, and others)
- Microsoft Windows (95, 98, NT4.0, 2000)
- Digital DEC-10

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## ACADEMIC and PROFESSIONAL ACTIVITIES

### Workshops Organization

- Co-organizer of the Workshop on Open Issues in Industrial Use Case Modeling, in UML 2004, Lisbon, Portugal (Oct 2004).
- Co-organizer of MASPEGHI 2004: MANaging SPEcialization/Generalization Hierarchies, in ECOOP 2004 (European Conference on Object-Oriented Programming), Oslo, Norway (Jun 2004).
- Co-organizer of MASPEGHI 2003: MANaging SPEcialization/Generalization Hierarchies, in ASE 2003 (18th IEEE International Conference on Automated Software Engineering), Montreal, Québec, Canada (Oct 2003).
- Co-organizer of WEAR 2003: Workshop on Encapsulation and Access Rights in Object-Oriented Design and Programming, in OOIS 2003 (9th International Conference on Object-Oriented Information Systems), Geneva, Switzerland (Sept 2003).
- Co-organizer of MASPEGHI 2003: MANaging SPEcialization/Generalization Hierarchies, in ASE 2003 (18th IEEE International Conference on Automated Software Engineering), Montreal, Québec, Canada (Oct 2003).
- Co-organizer of MASPEGHI 2002: MANaging SPE cialization/Generalization Hierarchies, in OOIS 2002 (Object-Oriented Information Systems), Montpellier, France (Sept 2002).
- Chief site judge for the ACM Collegiate Programming Contest, Natal, RN, Brazil (Nov 2001).
- Program Chairman and Co-Organizer of INTERINFO '87, First All-Chilean Meeting of Students in Informatics, Valparaíso, Chile (April 1987).

### Reviewer

- Minitrack on Frameworks and Methods for the Study and Analysis of Trust in Information Systems, in Hawaii International Conference on System Sciences 2003 (HICSS37).
- III Workshop Chileno de Ingeniería de Software, Jornadas Chilenas de Computación 2003.
- Integrated Computer Aided Engineering (ICAE) Journal, Special Issue on Multi-Agent Systems.
- IEEE P1016 Standard for Software Design Descriptions.
- Nupedia (Web-based free encyclopedia) peer reviewer, Computer Science area.
- Minitrack on Frameworks and Methods for the Study and Analysis of Trust in Information Systems, in

Hawaii International Conference on System Sciences 2002 (HICSS36).

- CBComp 2002 (II Congresso Brasileiro de Computação). HICSS 2002 (Hawaii International Conference on Software and Systems) minitrack on Frameworks and Methods for the Study and Analysis of Trust in Information Systems.
- SBBD 1999 (Simpósio Brasileiro de Bancos de Dados).
- EDOC'97 (First Enterprise Distributed Object Computing Workshop).
- Reviewer for FAPESP, the research funding agency of the State of São Paulo.
- Reviewer for the book "Object-Oriented Frameworks" (Fayad and Cline, 1998).

### Other Activities

- Member of *ACM*, The Association for Computing Machinery.
  - Member of *IEEE*, The Institute of Electrical and Electronic Engineers.
  - Member of *WIISA*, World-Wide Institute of Software Architects.
  - Associate member of the New York Academy of Sciences.
  - Associate member of the American Museum of Natural History.
  - Awarded with the "Presidente de la República" Scholarship, every year for the duration of the Ingeniero Civil Informático program (1982 - 1987).
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