

## Oscar A. Mondragón Campos

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### Education:

- Fall 1999 - Doctoral Program in Computer Engineering  
May 2004 The University of Texas at El Paso. Major GPA: 3.8 / 4  
Thesis "Elucidation and Specifications of Software Properties through Patterns and Composite Propositions to Support Formal Verification Techniques." *Advisor:* Dr. Ann Q. Gates.
- Fall 1994 - Master of Science in Computer Science (Emphasis in Software Engineering)  
Spring 1996 California State University, Sacramento, Major GPA: 3.75 / 4  
Thesis "Real Time Object Oriented Analysis," *Advisor:* Dr. Richard H. Thayer.
- Fall 1987 - Bachelor of Science in Communications and Electronics. GPA: 3.4  
Fall 1992 Escuela Superior de Ingeniería Mecánica y Eléctrica (ESIME), Mexico City  
Thesis "Analysis and Development of a Tutorial Maker System"

### Experience:

- Mayo 2004 - Consultant  
presente ESICenter México, ITESM - Guadalajara  
- Guided companies in their software process improvement programs with CMMI, IDEAL, ISO models
- August 2005- Instructor, Computer Science Department, University of Texas at El Paso (UTEP)  
May 2004 - Software Engineering Senior Project Class
- August 1999- Research Assistant  
August 2003 Systems and Software Engineering Affinity Laboratory, Computer Science Department, UTEP  
- Research areas: Formal specification of system properties, Fault tolerant software, Tracing, Assertions.
- July-Aug. 03 Research Appointment, Real Time System Laboratory, University of Pennsylvania.  
Sept-Oct. 02 - Elicited and formally specified software properties using Prospec, case study: blood bank.  
- Mapped two temporal languages: Future Interval Logic and MEDL (JavaMaC)
- June 2001 - Summer Intern, AT&T Labs  
Aug 2001 - Established a template to organize AT&T Network Element commands  
- Programmed TL1 commands for AT&T Network Elements through Netrac-NCI system
- July 1996 - Professor  
July 1999 Instituto Tecnológico Estudios Superiores Monterrey (ITESM), Mexico City  
- Taught Object Oriented Paradigm; Software Engineering; Programming Language C & C++,  
Analysis & Design Techniques, Software Development Techniques
- Projects:*
- Developed a Graphical Editor System in Visual C++ for the Modularly Configured Attached Processor, The University of Texas at El Paso (National Science Foundation) and ITESM-CCM (CONACYT)
  - Developed an Assembler Pre-Processor System for the Modularly Configured Attached Processor; The University of Texas at El Paso (NSF) and ITESM-CCM (CONACYT)
- Consultant:*
- Established a framework (business plan) to develop a Software Factory
  - Established a methodology for software inspections and for Software Quality Assurance
- Seminars given:*
- Software Engineering, Software Requirements
  - Quality for Software Development (Testing, SQA, IVV), Internet Services
  - Trained developers about Unified Modeling Language Notation & Objectory Method
- October 1996 - Consultant, Jonima, Mexico City  
May 1998 - Established a methodology for software development under Lotus Notes environment  
- Established tools, techniques for Project Management.  
- Established procedures for Software Quality Assurance.  
- Trained developers about Object Oriented technologies.

- June 1995 -* Summer Intern,  
*May 1996* California Energy Commission, Fuels' Office, Sacramento, California  
- Designed desktop publishing, graphics, and flow diagrams  
- Network support and troubleshooting
- June 1993 -* Programmer, Jonima, Mexico City  
*March 1994*  
- Translated Objects from Pascal for Windows to Borland C++  
- Tested software systems done in Lotus Notes  
- Analyzed, designed, developed and tested software systems for bank institutions using Visual C++.
- March 1992* Instructor, Escuela Superior de Ingeniería Mecánica y Eléctrica (ESIME IPN)  
*February 1993* - Taught algorithm analysis, data structures, and Pascal.
- August 1989* Research assistant, Escuela Superior de Ingeniería Mecánica y Eléctrica  
*February 1992* - Analyzed, designed, developed a Tutorial Maker System using Turbo Pascal to create online courses.

**Awards & Honors:** Outstanding Dissertation and Outstanding doctoral student, The University of Texas at El Paso  
Dodson doctoral fellowship, 2002-2003.  
CONACYT Scholarship, Ph. D, Program 1999-2003.  
Frank B. Cotton Graduate Scholarship 2000-2001.  
Fulbright grantee, Master's degree 1994-1996.  
Lockheed Martin Research Grant, Project: *Real Time Object Oriented Analysis*, 1996.  
2nd place for Best College Thesis 1992 by Asociación Mexicana de Informática para Ingeniería.  
Annual Research Award 1991, Computer Science, National Polytechnic Institute (IPN), Mexico City,  
Project: PROTOTAP, a Tutorial Maker Software System.  
Research fellowship, National Polytechnic Institute, Mexico City, 1989 -1992.  
Scholarship, National Polytechnic Institute, Mexico City, 1985-1992.

**Certifications:** Certified Software Engineering Practitioner (CSEP), IEEE, since 2002.  
CMMI Authorized Instructor, SEI, 2005.

**Technical Skills:** LTL, FIL, MEDL, Visual C++, Pascal for Windows (OOP), Assembly, Visual Basic, Btree, Prolog, Lisp, Lotus Notes, Windows, UNIX, MS-DOS, Word, Power Point, Visio, Ventura Publisher

**Technical Course work:**

Software Engineering	Validation -Verification	Database Systems	Logic Circuits
Software System Engineering	Formal Methods	Operating Systems	Microprocessors
Requirement Specifications	Adv. Algorithms	Language Principles	Adv. Digital Systems
Project Management	Theory of Computation	Data Communication	Computer Architecture

**Publications:** Mondragon, O., "Transmitir experiencias que demuestran a otras empresas pymes que es posible transitar el camino hacia CMMI," Segunda conferencia anual SEPG Latinoamérica, Panel 02: Guadalajara, México, Nov. 9-11, 2005.

Mondragon, O., "Addressing Infrastructure Issues in Very Small Settings," *International Research Workshop for Process Improvement in Small Settings*, Special Report, CMU/SEI-2006-SR-001, Pittsburgh, USA, Oct. 18-20, 2005, pp. 23-29.

Mondragon, O., Gates, A., Mendoza, H., and Sokolsky, O., "Generating Properties for Runtime Monitoring from Software Specification Patterns," Proceedings of the 17th International Software Engineering and Knowledge Engineering Conference, Taipei, Taiwan, July 14 – 16, 2005, pp. - .

Salamah, S., Gates, A., Roach, S., and Mondragon, O., "Verifying Pattern-Generated LTL Formulas: A Case Study," 12th International SPIN Workshop, LNCS vol. 3639, Springer, San Francisco, CA, USA, August 22-24, 2005, pp. 200-220.

Mondragon, O., and Gates, A., "Supporting Elicitation and Specification of Software Properties through Patterns and Composite Propositions," *International Journal of Software Engineering and Knowledge Engineering Conference*, vol. 14, no. 1, World Scientific Publishing, Singapore, Feb. 2004, pp. 21-41.

Mondragon, O., Gates, A., and Roach, S., "Prospec: Support for Elicitation and Formal Specification of Software Properties", *the Runtime Verification Workshop*, ENTCS 89(2), July 2003, pp. 67-86

Mondragon, O., "Property Elicitation and Specification Process (Prospec)," International Conference on Software Engineering ICSE 03, Doctoral Symposium, Portland, OR, May 2003, pp. 765.

- Mondragon, O., Gates, A., and Kassem, F., "Automated Support for Property Specification Based on Patterns," *15<sup>th</sup> International Software Engineering and Knowledge Engineering Conference*, California, USA, July 1-3, 2003, pp. 174-181.
- Mondragon, O., Gates, A., Roach, S., "Composite Propositions: Toward Support for Formal Specification of System Properties," *Proceedings of the 27<sup>th</sup> NASA/IEEE Software Engineering Workshop*, Greenbelt, MA, December 2002, pp. 67-74.
- Gates, A., Mondragon, O. "FasTLInC: A Constraint-based Tracing Approach," *The Journal of System and Software*, vol. 63, Elsevier Science, Amsterdam, Netherlands, 2002, pp. 241-258.
- Gates, A. Q., Roach, S., Mondragon, O., Delgado, N., "DynaMICs: Comprehensive Support for Run-Time Monitoring," *the Runtime Verification Workshop 2001 (RV '01)*, Paris, France, July 2001, pp. 61-77.
- Gates, A. Q., Mondragon, O. "The Use of Integrity Constraints to Support Tracing," *Twelfth International Software Engineering and Knowledge Engineering Conference*, Chicago, IL, July 2000, pp. 195-204.
- Gates, A. Q., Delgado, N., Mondragon, O. "A Structured Approach for Managing a Practical Software Engineering Course," *Proceedings of the 30th ASEE/IEEE Frontiers in Education Conference 2000*, Kansas City, Missouri, Session T1C, October 2000, pp. 21-26.
- Garcia, H., Gibson, G., Cabrera, S., Mondragon, O., "CAD Tools for the Modularly Configured Attached Processors," *Midwestern Symposium on Circuits and Systems*, Las Cruces, N.M. August 1999.

**Professional Societies:**

Sigma Xi Scientific Research Society member, 2003; IEEE member, 2001-present;  
Upsilon Pi Epsilon National Computer Science Honor Society member, 1996-present  
Research Candidate, National Research System, Mexico, 2005

**Others:**

Engineering & Science EXPO student facilitator and Outreach activities 2000-2001  
Competitive swimming 1975-83, Martial Arts 1986-87, Ballroom dance 1988, Scuba Diving 1990-92, 96

**Languages:**

Bilingual English / Spanish

**References:**

Available upon request.