

# Leonardo B. Lopes

1300 E Ft. Lowell Rd. #D206, Tucson, AZ 85719  
Phone (520)626-1780 - Home Phone (520)661-9478  
E-mail leo@sie.arizona.edu  
Web Page <http://www.sie.arizona.edu/faculty/leolopes/>

## EDUCATION

---

- PhD**, Industrial Engineering and Management Sciences -  
Northwestern University, 2003  
Dissertation Topic: Modeling and Communication of Stochastic Programs  
Advisor: Bob Fourer
- MS**, Industrial Engineering and Management Sciences, Northwestern University,  
1999
- BS**, Computer Science, Universidade Federal do Ceará (UFC - Brazil), 1997

## PROFESSIONAL EXPERIENCE

---

- 2003- **Visiting Assistant Professor, Systems and Industrial Engineering – UNIVERSITY OF ARIZONA**
- Prepare and teach graduate and undergraduate courses.
  - Pursue external funding and develop a research program.
  - Advise students and contribute to ongoing research efforts within the department.
- 1997-2003 **Research Assistant, Industrial Engineering and Management Sciences - NORTHWESTERN UNIVERSITY**
- Created tools and methodology to reduce the cost of developing stochastic optimization based models.
  - Lead an international interest group of top-tier researchers on the development of a standard for communicating instances of stochastic programs.
  - Co-organized academic meetings for local and international organizations.
- Summer of 2000 **Intern, MERL - MITSUBISHI ELECTRIC RESEARCH LABORATORY**
- Found Operations Research applications that could benefit from technology under development at Mitsubishi.
  - Researched the state of the art approaches to the applications, and collaborated with the senior research staff on major design aspects.
  - Created an interactive general purpose scheduling application, competitive with published benchmarks, designed to be adaptable with low cost to many different special cases of industrial problems.
- 1997 **Developer, TOWNSEND ANALYTICS, LTD. -A real time trading software company**
- Designed and built a program for customer account management and communication of security clearing information, automating most of the process and simplifying the treatment of exceptions.
  - Automated the company-wide build process -- The process by which all the software being developed is aggregated into packages distributed to clients.
  - Improved and maintained two key applications.

1997

**Network Administrator, PCC INFORMÁTICA**-A Us\$8M annual revenue computer retailer.

- Designed and installed the firm's intranet and Internet connection.
- Trained the sales force on applicability of hardware and software systems, contributing to a 12% increase in revenue over 3 months.
- Provided consulting on configurations for larger clients.
- Supervised and trained marketing personnel on the development of a web presence, and created Java applets.

1995-1997

**Network Administrator, MATH DEPARTMENT, UFC**

- Designed, built, and maintained the department's Internet connection.
- Trained students and staff, and tutored and supported the faculty on a wide range of computer issues, including web design, software usage and application development.
- Advised the department on infrastructure and equipment purchases.

## **REFEREED PUBLICATIONS**

---

- Robert Fourer and Leo Lopes, "A Management System for Decompositions in Stochastic Programming" upcoming in Annals of Operations Research.
- Robert Fourer and Leo Lopes, "A Filtration-oriented System for Modeling in Stochastic Programming", submitted to INFORMS Journal on Computing.
- Robert Fourer, Leo Lopes, and Kipp Martin, "FMLLP: A W3C XML Schema for Linear Programming ", submitted to INFORMS Journal on Computing.
- Neal Lesh, Leonardo B. Lopes, Joe Marks, Michael Mitzenmacher and Guy T. Schafer, "Human-Guided Search for Jobshop Scheduling", 3rd International NASA Workshop on Planning and Scheduling for Space, October 2002.
- Robert Fourer and Leo Lopes, "Object Oriented Modeling and Stochastic Optimization", working paper.

## **SELECTED PRESENTATIONS**

---

- Leo Lopes and Robert Fourer, "Object Oriented Modeling and Stochastic Optimization", INFORMS Annual Meeting, Atlanta, GA October 18-22 2003
- Leo Lopes and Robert Fourer, "A Modeling Language for Stochastic Optimization", International Symposium in Mathematical Programming 2003, August 18-22, Copenhagen, Denmark
- Leo Lopes, "Collaborative Research and the COIN-OR resource" INFORMS Annual Meeting, San Jose, CA, November 17-20 2002
- Robert Fourer and Leo Lopes, "A Modeling System for Multistage Stochastic Programming Problems" INFORMS Annual Meeting, San Jose, CA, November 17-20 2002
- Leo Lopes and Robert Fourer, "Advances in an XML-based Representation for Instances of Mathematical Programs" INFORMS Annual Meeting, San Jose, CA, November 17-20 2002
- Leo Lopes and Robert Fourer, "An XML-Based Format for Sharing Mathematical Programs" INFORMS Annual Meeting, Miami Beach, FL, November 4-7 2001
- Leo Lopes and Robert Fourer, "Model-level Directives for Generating Alternative Formulations of Stochastic Programs" IX International Conference on Stochastic Programming, Berlin, Germany, August 25-31, 2001

## **TEACHING AND MENTORING EXPERIENCE**

---

- Spring 2004 **Instructor and Course Developer**, SIE 473/573 *Concepts in Information and Communication Systems.*
- Fall 2003 **Instructor and Course Developer**, SIE 547 *Computational Issues in Optimization.*
- Fall 2003 **Instructor and Course Developer**, SIE 340 *Deterministic Operations Research.*
- Fall 2002 **Instructor**, IEMS 201 *Introduction to Statistics.*
- Spring 2002 **Grading Assistant**, Course IEMS 450-II *Nonlinear Optimization.*
- Fall 1999 **Teaching Assistant**, Course IEMS 322 *Industrial Psychology.*
- 2002-2003 **Graduate Fellow**, Ayers Residential College of Commerce and Industry, Northwestern University.

## **AWARDS AND HONORS**

---

- Arizona Prop. 301 Seed Grant: "A Scripting Based Mathematical Programming Language", \$10,700, 2004
- Co-PI, NSF ITR Proposal: Integrative Information Technology for Distributed Multi-Modal Networks: Data, Models, & Algorithms. Under Review, 2004
- Supported by NSF research grants DMI 9800077 and CCR 0082807 (9/1998 – present).
- Selected to attend the INFORMS doctoral Colloquium, San Jose, CA, 2002
- Selected to attend the IIE doctoral Colloquium, Orlando, FL, 2002
- Recipient of support from NSF to attend the "Delivering E-commerce" executive forum at The Logistics Institute, Georgia Tech, 2/2000.
- Recipient of support from Wolfram Research to attend the "MathML International Conference 2000", in Champaign, IL.
- FUNCAP Research Initiation Scholarship, 1996-1997. Supervisor: Prof. Luquésio Jorge, Mathematics Department, UFC (Brazil).
- CNPq Research Initiation Scholarship, 1994-1996. Supervisor: Prof. Clécio Thomaz, Statistics and Applied Mathematics Department, UFC (Brazil).

## **PROFESSIONAL MEMBERSHIPS AND SERVICE**

---

- Member of the Institute for Operations Research and Management Sciences.
- Member of the Institute of Industrial Engineers.
- Member of the Mathematical Programming Society.
- Session Chair, 2002 INFORMS Annual Meeting, San Jose, CA.
- Referee for the journal *Annals of Operations Research*.

## **COMPUTING AND LANGUAGE SKILLS**

---

- Production environment experience with **AMPL, LINGO, C++, UML, XML, XSLT, MINITAB, R, Splus, Maple, wxWindows, Python, Perl, MathML, ODBC, SQL, Internet Architecture, Operating Systems, and Database Systems.**
- Native English and Portuguese.
- Conversational Spanish and German.
- Basic French

## **REFERENCES**

---

References available upon request.