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CURRICULUM VITAE YANNET INTERIAN

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Applied Mathematics,
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RESEARCH EXPERIENCE

In my research I use probabilistic tools for the theory and application of algorithms in Computational Biology and Artificial Intelligence. My Ph.D thesis focused on problems related to Random Satisfiability and the Genomic Midpoint problem.

EMPLOYMENT

- Fellow at Institute for Pure and Applied Mathematics, UCLA.
 - Participating in a semester on "Mathematics of Knowledge and Search Engines".
- Postdoc at the Department of Bioengineering, University of California Berkeley (2006-2007).

EDUCATION

- Ph.D. in Applied Mathematics. Cornell University, 2006.
Thesis advisers: Bart Selman and Rick Durrett.
- M.S. Applied Mathematics. Cornell University, 2004.
- Diploma Course in Modeling and Simulation of Complex Realities at Abdus Salam International Center for Theoretical Physics, Trieste, Italy (2000-2001).
- Diploma Course in Mathematics at Abdus Salam International Center for Theoretical Physics, Trieste, Italy (1999-2000).
- M.Sc in Mathematics at the University of Havana, Cuba (1997-1999).
- B.Sc in Mathematics at the University of Havana, Cuba (1992-1997).

PUBLICATIONS

- R. Durrett and Y. Interian. *Genomic Midpoints: Computation and Evolutionary Implications*. Submitted.
- Y. Interian and R. Durrett. *Computing Genomic Midpoints*. Submitted.
- Y. Interian and G. Corvera. *Local Search Algorithms for MIN-SAT*. Submitted.
- Y. Interian, G. Corvera, B. Selman and R. Williams. *Finding small unsat cores to prove unsatisfiability of QBF's*. In Proceedings of the Ninth International Symposium on Artificial Intelligence and Mathematics 2006, Fort Lauderdale, Florida.
- H. Chen and Y. Interian. *A Model for Generating Random Quantified Boolean Formulas*. In Proceedings of the Nineteenth International Joint Conference on Artificial Intelligence (IJCAI), 2005, Edinburgh, Scotland.
- Y. Boufkhad, O. Dubois, Y. Interian, and B. Selman. *Regular random k-SAT: properties of balanced formulas*. To appear in Journal of Automated Reasoning 2005.
- Y. Interian. *Approximation algorithm for random MAX-k-SAT*. In International Conference on Theory and Applications of Satisfiability Testing SAT 2004. Full version to appear in Springer-Verlag Lecture Notes in Computer Science.
- Y. Interian. *Backdoor Sets for random 3-SAT*. In International Conference on Theory and Applications of Satisfiability Testing SAT 2003.
- A. Crump, G. Sharad, Y. Interian, B. Keathley, H. Lin and K. Mugo. *Committee Connectivity in the United States House of Representative*. Submitted

- H. de Arazoza, R. Lounes, T. Hoang, Y. Interian. *Modeling HIV Epidemic under contact tracing. The Cuban Case.* Journal of Theoretical Medicine, Volume 2, Number 4.
- R. Cruz, Y. Interian, N. Lopez . (1998). *A Hybrid Algorithm for the Satisfiability Problem.* Memorias del X Congreso Latinoamericano de Investigacion Operativa. X CLAIO, No. 33.
- R. Cruz, Y. Interian, N. Lopez (1999). *Hybrid Algorithms for the Maximum Satisfiability Problem.* Proceedings of the Second Symposium on Artificial Intelligence Adaptive System. CIMAF'99 pp 262-267, Havana, Cuba.
- N. Lopez, R. Cruz, Y. Interian. (1999) *Two Local Optimizers for the Maximum Satisfiability Problem based on a Neural Network Approach.* Memorias del VII Encuentro de la Escuela Regional de Matematicas, Universidad de Antioquia, Medellin, Colombia.

PROFESSIONAL ACTIVITIES

- Program Committee Member of the *Twenty-First National Conference on Artificial Intelligence (AAAI-06)*.
- Reviewer for *Journal of Automated Reasoning* (special issue on Satisfiability), reviewer for *Constraints*.
- Reviewer for CP-07 and AAAI-07.

SCHOLARSHIPS AND ASSISTANTSHIPS

- Research assistant for the CS Dept. Cornell Univ.(summer 2001, fall 2001, spring 2002, summer 2002, fall 2002, summer 2003, fall 2004, summer 2005, fall 2005).
- Research assistant for the Math Dept. Cornell Univ. (spring 2004, spring 2005).
- Teaching Assistant for the Math. Dept. Cornell Univ. (fall 2003).
- Teaching Assistant for the Computer Science Dept. Cornell Univ (spring 2003).
- Scholarship from the International Center for Theoretical Physics to attend the Diploma Course in Modeling and Simulation of Complex Realities (2000-2001).
- Scholarship from the International Center for Theoretical Physics to attend the Diploma Course in Mathematics (1999-2000).

SOFTWARE

- WalkMinQBF : With Gabriel Corvera. An algorithm to solve unsat 2-alternation QBF's.
- MedRbyLS : An Algorithm to find Midpoints Genomes.

COMPUTER SKILLS

- Programming in C, C++, shell scripts, perl, matlab
- Operating Systems Linux and Windows

TEACHING

Courses I have taught:

- Instructor for *Algorithms and Networks* at the Summer Math Institute at Cornell University (a seven-week residential summer program that prepares women and minority students for graduate work in the mathematical science)
- TA for *Introduction to Topology* (Fall 2003, Cornell University).
- TA for *Introduction to Programming* (Spring 2003, Cornell University).
- Instructor for *Introduction to Differential Equations* (Instituto Superior de Ciencias y Tecnologia Nucleares (ISCTN) Havana, Cuba.(spring 1999)).
- TA for *Mathematical Analysis I,II,III* (fall 1997, spring 1998, fall 1998) ISCTN.
- TA for *Statistics for Social Sciences* (spring 1995).

I have also participated at the *Math Explorer's Club* (an after school program for high school students) and in Expanding Your Horizons (EYH), a one-day conference for 7th-9th grade girls.