Leonor Frias Moya

Curriculum vitae

Barcelona, June 28, 2010

1 Personal data

- Surnames and name: Frias Moya, Leonor
- Birth (place and date): Barcelona (Spain), 6th May 1981
- E-mail: lfrias@lsi.upc.edu / leonor.frias@gmail.com
- Webpage: www.lsi.upc.edu/∼lfrias

2 Academic data

- June 2010: PhD in *Computer Science* from *Universitat Politècnica de Catalunya (UPC)*. Grade: *Excellent cum laude.* Thesis Title: *Data Structures Libraries.* Advisors: Dr. Jordi Petit and Dr. Salvador Roura.

- July 2006: *Diploma d'Estudis Avançats* (Diploma of Advanced Studies) in the Software PhD Program, intensification on Algorithms and Complexity at the *Departament de Llenguatges i Sistemes Informàtics* of the *Universitat Politècnica de Catalunya.* Thesis Project: *Data Structures Libraries.* Advisors: Dr. Jordi Petit and Dr. Salvador Roura. Grade: 10 (out of 10).

- July 2004: Degree in *Computer Science Engineering* at the *Facultat d'Informàtica de Barcelona, FIB* (Barcelona School of Informatics) of the *Universitat Politècnica de Catalunya (UPC).* Average grade: *8.92* (out of 10).

3 Publications

Journal articles

[1] L. Frias, J. Petit, and S. Roura. Lists Revisited: Cache Conscious STL Lists. *Journal of Experimental Algorithmics*, 14:3.5–3.27, 2009.

[2] L. Frias, J. Singler, and P. Sanders. Single-pass list partitioning. *Scalable Computing: Practice and Experience*, 9(3):179–184, 2008.

Articles in conferences

[3] L. Frias and J. Petit. Combining digital access and parallel partition for quicksort and quickselect. *ICSE Workshop on Multicore Software Engineering*, 0:33–40, 2009.

[4] L. Frias and J. Petit. Parallel Partition Revisited. In *Experimental Algorithms, 7th International Workshop, WEA 2008, Provincetown, MA, USA, May 30-June 1, 2008*, volume 5038 of *Lecture Notes in Computer Science*, pages 142–153. Springer, 2008.

[5] L. Frias, J. Singler, and P. Sanders. Single-Pass List Partitioning. In *The Second International Conference on Complex, Intelligent and Software Intensive Systems*, pages 817–821. IEEE Computer Society Press, March 2008.

[6] L. Frias and J. Singler. Parallelization of Bulk Operations for STL Dictionaries. In *Euro-Par 2007 Workshops: Parallel Processing*, volume 4854, pages 49–58. Lecture Notes in Computer Science, March 2008.

[7] L. Frias, J. Petit, and S. Roura. Lists Revisited: Cache Conscious STL Lists. In *Proceedings of the Fifth International Workshop on Experimental Algorithms (WEA)*, volume 4007, pages 121–133. Lecture Notes in Computer Science, May 2006.

[8] L. Frias. Extending STL maps using LBSTs. In *Proceedings of the Seventh Workshop on Algorithm Engineering and Experiments and the Second Workshop on Analytic Algorithmics and Combinatorics (ALENEX/ANALCO)*, pages 155–166. SIAM, 2005.

Research reports

[9] L. Frias and S. Roura. Multikey Quickselect. Technical report LSI-09-27-R, Universitat Politècnica de Catalunya, Departament de Llenguatges i Sistemes Informàtics, 2009.

[10] L. Frias. On the number of string lookups in BSTs (and related algorithms) with digital access. Technical report LSI-09-14-R, Universitat Politècnica de Catalunya, Departament de Llenguatges i Sistemes Informàtics, 2009.

[11] L. Frias. Algorithm Engineering: Efficient Data Structure Libraries. Technical report 25/2007, Matematisches Forschungsinstitut Oberwolfach, 2007.

[12] L. Frias, A. Queralt, and A. Olivé. EU-Rent Car Rentals Specification. Technical report LSI-03-59-R, Universitat Politècnica de Catalunya, Departament de Llenguatges i Sistemes Informàtics, 2003.

4 Communications

In Conferences

- *2nd International Workshop on Multicore Software Engineering (IWMSE '09)*, Vancouver, Candada. May 2009. Presentation of [3].

- *7th International Workshop on Experimental Algorithms (WEA08)*, Provincetown (MA), USA. May-June 2008. Presentation of [4].

- *Workshop on Multi-Core Computing Systems (MuCoCoS) 2008*, Barcelona, Spain. March, 2008. Presentation of [5].

- *Workshop on Highly Parallel Processing on a Chip (HPPC)*, Rennes, France. August, 2007. Presentation of [6].

- *Fifth Workshop on Experimental Algorithms (WEA06)*, Menorca, Spain. May, 2006. Presentation of [7].

- *Seventh Workshop on Algorithm Engineering and Experiments (ALENEX05)*, Vancouver, Canada. January, 2005. Presentation of [8].

Other

- *Algorithm Engineering Workshop*, *Mathemathisches Forschungsinstitut Oberwolfach*, Germany. May, 2007. Presentation of [11]. By invitation.

- *Efficient Data Structure Libraries*, *Fakultät für Informatik, Universität Karlsruhe*, Germany. January, 2007. Presentation at the research seminar of the Algorithmics I group.

- *Memory Hierarchies*, *Departament de Llenguatges i Sistemes Informàtics*, *Universitat Politècnica de Catalunya*, Barcelona, Spain. October-December, 2006. I was one of the speakers of this course in the *ALBCOM* group.

- *Efficient Libraries*, *Departament de Llenguatges i Sistemes Informàtics*, *Universitat Politècnica de Catalunya*, Barcelona, Spain. March, 2005. Presentation at the research seminar of the *ALBCOM* group.

5 Conferences and Workshops

- May 2009: *2nd International Workshop on Multicore Software Engineering (IWMSE '09)*, Vancouver, Canada.

- September 2008: *Eight International Conference on Hybrid Intelligent Systems (HIS2008)*. Universitat Politècnica de Catalunya, Barcelona, Spain.

- May-June 2008: *7th International Workshop on Experimental Algorithms (WEA08)*. Provincetown, MA (USA).

- March 2008: *International Workshop on Multi-Core Computing Systems (MuCoCoS'08)*. Barcelona, Spain.

- March 2008: *Second International Conference on Complex, Intelligent and Software Intensive Systems (CISIS-2008)*. Barcelona, Spain.

- August 2007: *13th International European Conference on Parallel and Distributed Computing (Euro-Par 2007)*. Rennes, France.

- August 2007: *Workshop on Highly Parallel Processing on a Chip (HPPC)*. Rennes, France.

- May 2007: *Algorithm Engineering* Workshop. *Mathemathisches Forschungsinstitut Oberwolfach*, Germany. By invitation.

- June 2006: *Sixth International Workshop on Experimental Algorithms (WEA07)*. Rome, Italy.

- August 2006: *APPROX 2006 + RANDOM 2006*. Barcelona, Spain.

- May 2006: *Fifth International Workshop on Experimental Algorithms (WEA06)*. Menorca, Spain.

- October 2005: *Annual European Symposium on Algorithms (ESA05)*. Palma de Mallorca, Spain.

- June 2005: *International Conference on the Analysis of Algorithms (AofA05)*. Barcelona, Spain.

- January 2005: *ACM-SIAM Symposium on Discrete Algorithms (SODA'05)*. Vancouver, Canada.

- January 2005: *Seventh Workshop on Algorithm Engineering and Experiments (ALENEX05)*. Vancouver, Canada.

6 Organizing Committees

- September 2008: *Eight International Conference on Hybrid Intelligent Systems (HIS2008)*. Universitat Politècnica de Catalunya, Barcelona, Spain. Chair.

- March 2008: *Second International Conference on Complex, Intelligent and Software Intensive Systems (CISIS-2008)*. Universitat Politècnica de Catalunya, Barcelona, Spain.

- May 2006: *Fifth International Workshop on Experimental Algorithms (WEA06)*. Menorca, Spain.

- June 2005: *International Conference on the Analysis of Algorithms (AofA05)*. Barcelona, Spain.

7   Refereeing activity

Conferences

- *9th International Symposium on Experimental Algorithms (SEA 2010).*

- *16th Annual European Symposium on Algorithms (ESA 2008).*

- *5th IFIP International Conference on Theoretical Computer Science (TCS-2008).*

- *14th European Conference on Parallel and Distributed Computing (Euro-Par 2008).*

- *13th Annual European Symposium on Algorithms (ESA 2005).*

8   Attended courses, seminars and symposiums

- 1st-4th October 2007: *Jornades Doctorials 2007 (tercera edició).* Symposium for PhD students at Catalan Universities. Collbató, Spain.

- 18th-20th September 2007: *AEOLUS School on Security of Global Computers: Challenges and Approaches.* Salerno, Italy.

- 28th June-1st July 2006: *Dynamo Training School.* Lisbon, Portugal.

- 2nd-8th May 2006: *Combstru School on Computational Complexity.* Bertinoro, Italy.

9   Research visits abroad

- 2007: 4-month research visit at *ITI Sanders, Fakultät für Informatik, Universität Karlsruhe* supervised by Prof. Dr. Peter Sanders. In particular, I collaborated in the MC-STL project for parallelizing the STL. Currently, part of this project is included in the GNU GCC compiler (from release 4.3 on) and known as the *libstdc++ parallel mode* (`http://gcc.gnu.org/onlinedocs/libstdc++/manual/parallel_mode.html`).

10   Teaching

- Teaching assistant in Programming 1, a first year programming course for computer engineers (`www.fib.upc.edu/en/information/info/Courses/P1.html`), at the *Facultat d'Informàtica (FIB)* of the *Universitat Politècnica de Catalunya.*

    - Academic Year 2008/2009: 28 teaching hours in total.
    - Academic Year 2007/2008: 51 teaching hours in total.
    - Academic Year 2006/2007: 39 teaching hours in total.

11   Internships

- 2009: 3-month internship at Google Germany GmbH in Munich. The project was on Engineering Productivity. Among others, it involved advanced C++ skills, Unit Testing, MapReduce and BigTable Google technologies.

- 2002: 6-week internship at EASI Engineering, SL in Barcelona. The performed tasks were: testing, debugging and documentation of S-TORM software to obtain and analyze stochastic processes data.

12   Received grants and awards

- 2008: Finalist of the *Google Europe Anita Borg Memorial Scholarship 2008.*

- 2007: *Beca per a estades per a la recerca fora de Catalunya BE-2 2006 (Modalitat A)* (Travel grant for a research stay outside Catalonia) granted by the *Agència de gestió d'ajuts universitaris i de recerca* (Agency for management of university and research aids) with funds of the European Social Fund.

- 2nd-8th May 2006: BICI-COMBSTRU fellowship to attend the Combstru School on Computational Complexity. Bertinoro, Italy.

- 2005: *Beca Predoctoral per a la Formació de Personal Investigador* (Predoctoral grant for research staff training) granted by the *Agència de gestió d'ajuts universitaris i de recerca* (Agency for management of university and research aids) with funds of the European Social Fund. Renewed in the form of a temporary contract position at Universitat Politècnica de Catalunya in 2006, 2007 and 2008 for one year each.

- 2004: 3rd best grade of Computer Engineering at *Facultat d'Informàtica de Barcelona, FIB* (Barcelona School of Informatics) of *Universitat Politècnica de Catalunya (UPC)* during that academic year.

- summer 2003: Collaboration grant at the *Departament de Llenguatges i Sistemes Informàtics, Universitat Politècnica de Catalunya* to study and specify the EU-rent case. The resulting work is summarized in the research report [12].

- 1998: *Premi Extraordinari de Batxillerat de Catalunya* (award from the Catalan Government to the best high school students).

13   Languages

Language	Level	CEFR	Certificate
Italian	Basic	A1	
German	Upper Intermediate	B2	Issued by the Spanish School of Languages
English	Advanced	C1	CAE
Spanish	Native		
Catalan	Native		Certificat C