Curriculum Vitae

Alejandro C. Russo

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1 Personal Information

Name	:	Alejandro César Russo
Date of birth	:	28th of February, 1978
Place of birth	:	San Nicolás de los Arroyos, Buenos Aires, Argentina
Citizenship	:	Argentine
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About me

My primary research area is *Type Specialization*, and *Functional Programming*, *Type Theory*, and *Formal Methods* for constructing software are my general research interests.

2 Education

I obtained the degree of **Licenciate in Computer Sciences** (five years) at the Facultad de Ciencias Exactas, Ingeniería y Agrimensura (Faculty of Exact Sciences, Engineering and Surveying), Universidad Nacional de Rosario (National University of Rosario), Argentina.
Number of courses:30.
Acummulated Average: 9.50 (scale from 1 to 10).

Relevant Undergraduate Courses Taken

- Construction of correct programs using Coq (course Professional Practice), lecturer Ph.D. Nora Szasz (InCo, Montevideo, Uruguay), Second Semester of 2000. Approved with 10 (scale from 1 to 10).

- Advanced Functional Programming (elective course), lecturer Msc. Pablo E. Martínez López (LIFIA, UNLP, Argentina), First Semester 2002, National University of La Plata. Approved with 10 (scale from 1 to 10).

- Analysis of Programming Languages II(Functional Programming), Second Semester 1998. Approved with 10 (scale from 1 to 10).

Graduate Thesis (2002 – 2004)

My graduate thesis was related to a particular form of program transformation, which is Partial Evaluation. In 1996, John Hughes introduced a different form of program specialization as a solution for optimal specialization of typed interpreters. It has also proved to be a rich approach to program specialization. However, his approach has some undesirable consequences, as example lack of principality. Pablo E. Martnez Lpez fixed this problems for a subset of the language presented by John Hughes. He removed the inherited limit of polymorphism and proved that his syntax directed system has a notion of principality, called principal specialization. My work consisted of introducing to his system two rules for dealing with dynamic sum-types, which is an essencial structure to write an self-interpreter. My work is avaliable in my web page.

3 Scholarships Granted

- Assistance to the "International School of Semantics and Applications 2003" (WSSA03), granted by Argentinian Society of Informatics and Operative Investigation (SADIO). June 2003.

4 Teaching Experience

4.1 Faculty of Exact Sciences, Engineering and Surveying

I have been teaching in the carreer of **Licenciate in Computer Sciences** since 1999. This carreer lasts five years.

- 2003 First Semester

  Advanced Functional Programming (Instructor),

- 2000, 2001, 2002, 2003, 2004 First Semester

  Algorithm and Data Structures(Lecturer)

- 1999 First Semester

  Algorithm and Data Structures(Teaching Assistant)

- 2001, 2002, 2003, 2004 Second Semester

  Analysis of Programming Languages II(Functional Programming) (Instructor)

- 2000 Second Semester

  Analysis of Programming Languages (Functional Programming) (Teaching Assistant),

- 1999, 2000, 2001, 2002 Second Semester

  Concrete Mathematics(Teaching Assistant),

- 2000, 2001 First Semester

  Introduction to informatics(Teaching Assistant),

4.2 Polytechnic Institute Gral. San Martín

I have been teaching in the carreer of **Universitary Computing Analyst** since 2000. The intitute depends on the National University of Rosario. This carreer lasts three years.

- 2001, 2002, 2003, 2004 First Semester

  Laboratory I of Informatics (Introduction to Linux / Shell Programming) (Lecturer)

- 2000, 2001, 2002, 2003, 2004 Second Semester

  Laboratory II of Informatics (*C* Language Programming) (Lecturer)

5 Presentations

- **Principal Type Specialization of Dynamic Sum-Types**, Graduate Room, Faculty of Exact Sciences, Engeneering and Surveying, Rosario, Argentina. August 2004.
- **Introduction to LaTeX**, Mathematic Department, Faculty of Exact Sciences, Engeneering and Surveying, Rosario, Argentina. Abril 2004.

- **Free Software f/Win**, First National Congress of Free Software (USUARIA 2004), City of Buenos Aires, Argentina. May 2004.
- **Free Software and The University**, Principal Large Hall, Faculty of Exact Sciences, Engineering and Surveying, Rosario, Argentina. June 2003.
- **Treaps and its implementation**, LIFIA Lambda Meeting, National University of La Plata, La Plata, Argentina. April 2003.
- **Theorems for free!** (Talk based in the P. Wadler's paper), LIFIA Lambda Meeting, National University of La Plata, La Plata, Argentina. November 2002.
- **O'Haskell, its syntax**, LIFIA Lambda Meeting, National University of La Plata, La Plata, Argentina. November 2000.
- **Subtyping** (talk based in the Cardelli's paper On Understanding Types, Data Abstraction, and Polymorphism), LIFIA Lambda Meeting, National University of La Plata, La Plata, Argentina. November 2000.

6 Courses and Schools Assisted

- Summer School: *Escuela de Verano de Ciencias Informáticas*(RIO'04), National University of Río IV, Córdoba, Argentina. February 2004.
  - **From philosofy to program length**, Gregorio Chaitin (IBM Watson Research Center, USA), $12:30$hs, Attended and approved with 9.50 (scale from 1 to 10).
  - **Security in Informatic**, Emiliano Kargieman (Core Security, EEUU/Argentina), $12:30$hs, Attended and approved with 9 (scale from 1 to 10).
- Winter School: *International Winter School on Semantics and Applications* (WSSA'03), Montevideo, Uruguay. July 2003.
  - **Computational semantics**, Marcelo Fiore (University of Cambridge, England), 8hs, Attended.

- **Abstract Interpretation and Static Analisis**, David Smith (Kansas State University, USA), 8hs, Attended.
- **Type Systems**, Peter Dybjer (Chalmers University, Sweden), 8hs, Attended and approved with 10 (scale from 1 to 10).
- **Modal and temporal logics**, Corlin Stearling (University of Edinburgh, The Netherlands), 8hs, Attended.
- **Mobility**, Davide Sangeorgi (University of Bologna, Italy), 6hs, Attended.
- **Language-based security**, Andrei Sabelfeld (Chalmers University, Sweden), 6hs, Attended and approved (not score given).
- **Formal verification techniques for JavaCard**, Gilles Barthe (INRIA, France) 6hs, Attended.
- **Cryptographic protocols**, Joshua Guttman (Mitre, USA), 6hs, Attended.

• Summer School: *Escuela de Verano de Ciencias Informáticas* (RIO'03), National University of Río IV, Córdoba, Argentina. February 2003.

- **Verification of sequencial and concurrent programs**, Leonor Prensa (INRIA, France), 12 : 30hs, Attended.
- **Integration of formal methods in the process of software development**, Claudia Pons (LIFIA, National University of la Plata, Argentina), 12 : 30hs, Attended.

• Ph.D Course: **Overloading in strong typing language** (based on Mark P. Jones' thesis "qualified types : theory and practice"), Msc. Pablo E. Martnez Lpez, 2002, National University of La Plata, La Plata, Argentina. November 2002. Approved with 10 (scale from 1 to 10).

• Winter School: *Escuela de Ciencias Informáticas* (ECI'01), University of Buenos Aires, Buenos Aires, Argentina. July, 2001.

- **UNITY logic and distributed algorithms**, Gruia Catalin Roman (University of Washington, Saint Louis, USA), 15hs, Attended.

- **Searching Algorithms in Multimedia Spaces**, Edgar Chavez Gonzlez (University of Michoacana de San Nicols de Hidalgo, Mexico), 15hs, Attended.

- Winter School: *Escuela de Ciencias Informáticas* (ECI'00), University of Buenos Aires, Buenos Aires, Argentina. July, 2000.
  - **Retrieving Information: algorithms, data structures and applications in the WWW**, Gonzalo Navarro (University of Chile, Chile), 18hs, Attended and approved with 7 (scale from 1 to 10).
  - **Boolean Calculus, from the complexity theory to learn by questions**, Jos Luis Balczar (Polytechnic University of Catalua, Spain), 18hs, Attended.

- Winter School: *Escuela de Ciencias Informáticas* (ECI'99), University of Buenos Aires, Buenos Aires, Argentina. July, 1999.
  - **Advanced Data Structures**, Michael Bender (State University of New York at Stony Brook, USA), 18hs, Attended.
  - **Distributed Programming (RPC, CORBA, OMG, JAVA)**, Juan Pavn Mestras (Universidad Complutense de Madrid, Espaa), 18hs, Attended and approved with 7 (scale from 1 to 10).

- **Oriented Object Programming in C++**, Mathematic Department, 10hs, Attended, National University of Rosario, Rosario, Argentina. September 1996.

7 Important Events Assisted

- Jornadas Argentinas de Informtica e Investigacin Operativa (JAIIO 2003), Universidad de la Empresa (UADE), Capital Federal, September 2003. Attended.

- Opening of the Student Chapter of Argentinian Society of Informatics and Operative Investigation (SADIO), National University of Río IV, Córdoba, Argentina. I represented my University together with other students. Febraury 2003.

- Meeting of the Argentinian Society of Informatics and Operative Investigation (SADIO), National University of Córdoba (FaMAF), Argentina. I represented my University together with other two professors. October 2002.

- Meeting for discussing about a national core of subjects to teach in computer science. It was organized by RedUNCI, Mar del Plata, Argentina. I represented my Univeristy together with other professor. September 2002.

- First Meeting of National Researchers in Computer Sciences at University of Buenos Aires (UBA). It was organized by CONICET, Buenos Aires, Argentina. I represented my University together with other professor and two students. Dicember 2000.

8 University Managerial Activities

- Member of the Assesor Council of Exact Science School, Computer Science teacher representer, National University of Rosario, 2003−2004.

- Member of the Assesor Council of Computer Science Department, teacher representer, National University of Rosario, 2003 – 2004.

- Member of the Assesor Council of Computer Science Department, student representer, National University of Rosario, 2000 – 2002.

9 Professional Experience

- Program that generates specific lineal restrictions for LINDO Software, written for **Ph. D. Graciela Nasini** (researcher at the Mathematic Department), Faculty of Exact Sciences, Engineering and Surveying, National University of Rosario, Rosario, Argentina. March 2004.

- LAN Network Installation for the Auxiliary Dome at **Rosario's Observatory**. June 2000

- Traduction of a numeric calculi software from Forthran to *C* language for **Ph.D. Roberto L. V. González**. Rosario, September 1999

- LAN Network Installation with connection to Internet on demand for the Architecture Office **Impulso S.A**, Rosario, June 1999.
- Installation of a Internet Server under GNU/Linux (web, ftp and mail services) for the Internet Provider **Green Net S.A**, San Pedro, Argentina, March 1999.
- Lectures about the software *Lex Doctor* for the **Dr. Marchianno**'s Law Office, San Nicolás, Argentina, November 1993.
- Analisys, Design, and Implementation (in Clipper Language) of a system for administrating **Disma Hogar S.A.** (Applience Store), San Nicolás, Argentina, March-November 1993.

10 Others

Referee for the following conferences: CACIC 2002
Languages: Spanish (native), English (intermediate level).