

CURRICULUM VITAE

Ernesto Cuadros-Vargas

University of Engineering and Technology
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 Lima - Peru
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Education

- Mar2000-Mar04 Ph.D. in Computer Science and Comp Mathematics
 University of Sao Paulo, Brazil
 Indexing and Searching in Multimedia Databases using Intelligent Techniques
 Examination Date: March 3th, 2004
Approved unanimously (equiv. to summa cum laude)
 Project developed with
 Carnegie Mellon University with Prof. Christos Faloutsos in 2001 and
 Technischen Universitat Berlin-Germany with Prof. Dr. Klaus Obermayer in 2002.
GPA: A
- Aug96-Aug98 M.Sc. in Computer Science and Comp. Mathematics
 University of Sao Paulo, Brazil
 Kipu: A Neural Network Simulator for Constructive Models
 Examination Date: Aug 26th, 1998
Approved unanimously (equiv. to summa cum laude)
GPA: A
- Mar90-Dec94 B.Eng. in Ingeniería de Sistemas (Computer Science)
 School of Ingeniería de Sistemas (Computer Science)
 Santa Maria Catholic University, Peru
 at the age of 20

Professional Career

- Aug16-present Head of the School of Computer Science
 University of Engineering and Technology (UTEC), Lima Peru
- Mar11-Dec14 Dean of the School of Engineering and Computing
 San Pablo Catholic University, Arequipa Peru
- Mar05-Jul16 Head of the School of Computer Science
 San Pablo Catholic University, Arequipa Peru
- Mar04-Feb05 Assistant Professor (part-time)
 School of Computer Science
 San Pablo Catholic University, Arequipa Peru
- 2000 Teaching Assistant (Data Structures)
 Institute for Mathematics and Computer Science
 University of Sao Paulo, Brazil
- Apr99-Jul99& Assistant Professor (part-time)
 Mar04-present School of "Ingeniería de Sistemas"
 San Agustín University, Peru

- Sep98-Apr99 Software Engineer
Olimpus SRL. Arequipa Perú
Project: **PaperWay: A flowchart platform for public Peruvian institutions**
- 1997-Aug98 Teaching Assistant (Data Structures)
Institute for Mathematics and Computer Science
University of Sao Paulo, Brazil
- Mar93-Oct95 Software Developer
Informatic Institute, San Agustín University
Project: **A search engine for Indexing and Searching in large text databases**

Projects, Funding and Awards

- **LATIN Ene12-Dec14**
Funding: European Union 1'207,530 Euros
Project Name: Collaborative Open Textbook Initiative for Higher Education tailored specifically for Latin America
Position: Country representative (Peru)
Accomplishments: Under development
- **STIC-AmSud Research Grant Ene10-Ene12**
Funding: French Government in cooperation with CONCYTEC (Peru)
Project Name: Context Aware Multi-agents for Pervasive and Ubiquitous Systems
Position: Country representative (Peru)
- **FINCYT Research Grant Mar09-present**
Funding: Science and Technology Program, FINCYT (Peru)
Project Name: Optimal routes for public transportation
Position: Coordinator
Accomplishments: Methods for planning public transportation paths for citizens
- **Research Grant Ene08-Ene10**
Funding: French Government in cooperation with CONCYTEC (Peru)
Project Name: MIRVisIM-Mining, Indexing, Retrieval and Visualization of Medical Images data sets
Position: Country representative (Peru)
Accomplishments: Developed methods to retrieve information based on similarity in image data sets
- **FAPESP Research Grant (2000-2004)**
Funding: Foundation for Research Support of the State of São Paulo (FAPESP, Brazil).
Project name: Indexing and Searching in Multimedia Databases using Intelligent Techniques
Position: Grant holder (Ph.D.)
Accomplishments: Developed and published methods on similarity information retrieval
- **CNPq Research Grant (1996-1998)**
Funding: National Research Council (CNPq, Brazil).
Project name: Kipu: A Neural Networks Simulator for constructive models
Position: Grant holder (M.Sc.).
Accomplishments: Developed and published methods on neural networks
- **Award by the City Council of Arequipa 2004**
For the Excellent organization of the 30th Latin American Conference on Computer Science, Arequipa 2004 with approx. 123 Speakers from 30 countries and 1000 attendees.
- **Award 1984: Best Student in Mathematics (Arequipa, Peru)**
Ranked 1st from approx. 50,000 students

Research Interests

- Data Structures.
- Similarity Information Retrieval in Multimedia data sets.
- Metric Access Methods.
- Spatial and Spatio-Temporal Access Methods.
- Education in Computer Science

Organizing and Scientific Committees

- **Organizing Committees**

- 25th International Symposium on String Processing and Information Retrieval (SPIRE 2018) in Lima Peru (Conference Chair).
- 21th Annual Conference on Innovation and Technology in Computer Science Education, Arequipa 2016 (Conference Chair).
- 41th Latin American Conference on Computer Science, Arequipa 2015 (Organizing Committee Chair).
- 30th Latin American Conference on Computer Science, Arequipa 2004 (Organizing Committee Chair).
- Peruvian Computer Society Congress 2006 (General Chair).
- Ibero-American Workshop on Software Engineering and Development Environments 2004 (Organizing Committee).
- International Joint Conference on Neural Networks, IJCNN2007, Organizing Committee Member, <http://www.inns.org/files/IJCNN07.pdf>.

- **Program Committees**

- International Joint Conference on Neural Networks (IJCNN) since 2004.
- Latin American Conference on Computer Science (CLEI) since 2005

Teaching

- **Data Structures II (San Pablo Catholic University, Peru)**, Spatial and Metric Access Methods, 2004-present (**in English**).
- **Introduction to Computer Science (San Pablo Catholic University, Peru)**, 2006-present (**in Spanish**).
- **Capstone Project (San Pablo Catholic University, Peru)**, 2004-2010 (**in Spanish**).
- **Introduction to Computer Science (San Agustin University, Peru)**, 2008-present (**in Spanish**).
- **Data Structures I, II (San Agustin University, Peru)**, Spatial and Metric Access Methods (2004-2009) (**in Spanish**).
- **Programming Languages (C++) (San Agustin University, Peru)**, Since 2009 (**in Spanish**).
- **Data Structures for master students (University of Sao Paulo, Brazil)**, Spatial and Metric Access Methods, 2004-present (**in Portuguese**).

Advised Master and Student Theses

- **Student undergraduate thesis (San Pablo Catholic University) Juan Manuel Bedregal, 2010**
Indexing Multimedia data sets.
- **Student undergraduate thesis (San Pablo Catholic University) Rensso Mora, 2009**
Recognizing fingerprints (using Metric Access Methods).

- **Student undergraduate capstone project (San Pablo Catholic University) Edgar Chipana Mercado, 2008**
Document retrieval by using DBM Access Method.
- **Student undergraduate thesis (San Pablo Catholic University) Enrique Masias Chávez, 2008**
Algorithms to improve the use of flash memories.
- **Student undergraduate thesis (San Pablo Catholic University) Jennifer Flores, 2007**
Simulating Traffic problems in the city of Arequipa
- **Student undergraduate thesis (San Pablo Catholic University) Carlos Bedregal, 2007**
Incorporating Metric Access Methods into Self-Organizing Maps.
- **Master thesis (U of Sao Paulo) Humberto Sousa, 2000**
Implementing Constructive Neural Network in Kipu Simulator.

Professional Affiliations

2001-present	Co-founder and member of the Peruvian Computer Society
2005-present	Senior IEEE Member
2005-present	ACM Member

Recent Service

2016-2020	Member of the IEEE/ACM Computing Curriculum Steering Committee (CC2020)
2011-2013	Member of the IEEE/ACM Computing Curriculum Steering Committee for the Computer Science 2013 (CS2013) volume (www.cs2013.org)
2008-2012	Executive Secretary of the Latin American Center of Computer Science (CLEI)
2002-2008	Representative of Peru at the Latin American Center of Computer Science (CLEI)
2001-2007 and 2007	President of the Peruvian Computer Society
2007	Member of the Organizing Committee of the IJCNN2007
2004	Organizing Committee Chair of the XXX Latin American Conference on Computer Science (CLEI2004)
2006-2009	Member of the IEEE Educational Activities Board
2010	Member of the IEEE-CS Educational Activities Board

Skills

- **Languages:** Spanish (native speaker), English (fluent), Portuguese (fluent) and German (basic)
- **Computer Programming:** Significant experience in C/C++ on Unix and Windows. Familiar with VTK, HTML, Postgres.
- **Martial Arts:** Black belt in Karate Do Shotokan style (2nd Dan)
- **Others:** Familiar with database design. Very good at creative tasks, team-work and dealing with tight deadlines.
- **Hobbies:** Racquetball, squash, tennis, swimming.

Selected publications

- Mehran Sahami, Steve Roach, Andrea Danyluk, **Ernesto Cuadros-Vargas**, Sally Fincher, Ronald Dodge, Kathleen Fisher, Robert France, Dan Grossman, Amruth Kumar, Beth Hawthorne, Brian Robinson, Randy Katz, Remzi Seker, Rich LeBlanc, Alfred Thompson, Dave Reed. CS2013 Strawman. ACM/IEEE-CS. USA, February 2012.
- Mehran Sahami and Steve Roach and **Ernesto Cuadros-Vargas** and David Reed. Computing Curricula 2013: Computer Science – Update on the Strawman Report from the ACM/IEEE-CS Task Force. SIGCSE 2012 Raleigh, NC USA March 2012.

- Alexander Ocsa and Carlos Bedregal and **Ernesto Cuadros-Vargas**. DB-GNG: A constructive Self-Organizing Map based on density. In Proceedings of the International Joint Conference on Neural Networks (IJCNN2007). Orlando-FL. August 2007. International Neural Network Society (INNS) and IEEE-Computational Intelligence Society (CIS). IEEE.
- **Ernesto Cuadros-Vargas**, Eduardo Tejada and Adenilso da Silva Simao, Editores. Proceedings of the I Conference of the Peruvian Computer Society - I International Conference of Peruvian Scientists, Volume 1, Lima-Peru, January 2003. Peruvian Computer Society and Worldwide Network of Peruvian Scientists.
- Alexander Ocsa and **Ernesto Cuadros-Vargas**. DBM*-Tree: An Efficient Metric Access Method. In Proceedings of the 45th ACM Southeast Conference. Winston-Salem, North Carolina, USA. March 2007. American Computing Machinery (ACM).
- José Peñarrieta and Patricio Morriberón and **Ernesto Cuadros-Vargas**. Distributed Spatial Approximation Tree - SAT*. In Mauricio Marin and Gonzalo Acuña editor. Actas de la XXXII Conferencia Latinoamericana de Informatica (CD ROM)(CLEI2006). pages 155. August 2006. CLEI. Universidad de Santiago. 956-303-028-1.
- Elizabeth Vidal and **Ernesto Cuadros-Vargas**. Computer Science Curricula design for peruvian universities: San Pablo Catholic University case study. In Proceedings of the 1st IFIP International Conference on Education for the 21st century – Impact of ICT and Digital Resources. 2006.
- Carlos Bedregal and **Ernesto Cuadros-Vargas**. Using Self-Organizing Maps and Large Databases without tears. In Proceedings of the World Conference on Computational Intelligence (WCCI2006). Vancouver, Canada. July 2006. IEEE.
- **Ernesto Cuadros-Vargas** and Roseli A. Francelin Romero. Introduction to the SAM-SOM* and MAM-SOM* Families. In International Joint Conference on Neural Networks (IJCNN05). volume 5. pages 2966–2970. July 2005. INNS-IEEE.
- **Ernesto Cuadros-Vargas**. Recuperación de información por similaridade utilizando técnicas inteligentes. Department of Computer Science - University of Sao Paulo, , March, 2004.(In portuguese) Advisor: Profa Roseli Ap. Francelin Romero.
- Mauricio Solar and David Fernandez-Baca and **Ernesto Cuadros-Vargas** editor. 30th Conferencia Latinoamericana de Informatica- CLEI2004, volume 1, Arequipa-Peru, Sep 2004. Sociedad Peruana de Computacion, 1273 pages.
- **Ernesto Cuadros-Vargas** and R. Francelin Romero and Klaus Obermayer. Speeding up algorithms of SOM Family for Large and High Dimensional Databases. In Workshop on Self Organizing Maps. Kitakyushu Japan. September 2003.
- **Ernesto Cuadros-Vargas** and R. Francelin Romero. A SAM-SOM Family: Incorporating Spatial Access Methods into Constructive Self-Organizing Maps. In Proc. IJCNN'02, International Joint Conference on Neural Networks. pages 1172-1177. Hawaii, HI. 2002. IEEE Press.

References

- Ricardo Baeza-Yates, PhD (U de Chile, Chile)
Yahoo! Research
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- Christos Faloutsos, PhD,
SCS, Carnegie Mellon University-USA
christos@cs.cmu.edu, <http://www.cs.cmu.edu/~christos>
- Klaus Obermayer, PhD,
School of Computer Science, Technischen Universität Berlin, Germany
oby@cs.tu-berlin.de
- Roseli A Francelin Romero, PhD (ICMC-USP, Brazil)
rafrance@icmc.usp.br, <http://www.icmc.usp.br/~rafrance>
- Andre de Carvalho, PhD. (ICMC-USP, Brazil)
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