

# Curriculum Vitae

## 1 Personal Information

Name : Rodrigo Paredes.  
Nationality : Chilean.  
Birthday : April 3, 1976.  
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Degree : PhD in Computer Science.  
Areas of interest : Design and Engineering of Algorithms, Metric Databases.  
Current status : Lecturer, Universidad de Talca.

## 2 abstract

Rodrigo Paredes is Assistant Professor in the Department of Computer Science at the Universidad de Talca. He earned his PhD in Computer Science in 2008 from the Universidad de Chile, where he also received a MSc degree in Computer Science and both Computer and Electrical Engineer degrees. In 2009, he was the recipient of the annual award “JCC Invited Talk” given by the Chilean Computer Science Society (SCCC) to the best performing Chilean researcher with a recent Ph.D. in Computer Science. Also, he obtained the 2nd prize in the 2003 CLEI-UNESCO Latin American Computer Science Master Theses Contest. Rodrigo was the coach of the first Chilean team classified to the ACM-ICPC World Finals (2007). His main research interests are metric space indexing, graph algorithms, and experimental algorithms in general.

## 3 Studies

### 3.1 Formal Studies

- (2002–2008) PhD in Computer Science, Facultad de Ciencias Físicas y Matemáticas, Universidad de Chile.  
Thesis: “*Graphs for Metric Space Searching*”.  
Advisor: Prof. Gonzalo Navarro (Universidad de Chile).
- (2001–2002) MSc in Computer Science, Facultad de Ciencias Físicas y Matemáticas, Universidad de Chile.  
Score: 7.0 (range 1.0 - 7.0).  
Thesis: “*Using  $t$ -Spanners for Metric Space Searching*”, in Spanish.  
Advisor: Prof. Gonzalo Navarro (Universidad de Chile).

- (1993–2002) Computer Engineer, Facultad de Ciencias Físicas y Matemáticas, Universidad de Chile.  
Score: 6.4 (range 1.0 - 7.0).  
Final Engineering Project: Same as MSc.
- (1993–2000) Electrical Engineer, Facultad de Ciencias Físicas y Matemáticas, Universidad de Chile.  
Score: 6.2 (range 1.0 - 7.0).  
Final Engineering Project: “*Design and Implementation of a Teaching Laboratory for Internet Service Providers*”, in Spanish.  
Advisor: Prof. Alfonso Ehijo (Universidad de Chile).

### 3.2 Scholarships and Awards

- Three out of my conference articles (SISAP’15, SISAP’08 and WEA’06) have been selected for special issues in scientific journals devoted to the best papers of such conferences.
- (2009) Recipient of the annual award given by the Chilean Computer Science Society (SCCC) to the best performing Chilean researcher with a recent Ph.D. in Computer Science. The award included a plenary talk at 2009 Jornadas Chilenas de Computación (Chilean Congress of Computer Science), entitled “On Sorting, Heaps, and Minimum Spanning Trees”.
- (2005–2007) Coach of the teams from the Department of Computer Science (DCC) at University of Chile (UChile) which have attended to the ACM international collegiate programming contest (ACM-ICPC), Chilean zone. In 2006 and 2007, our teams obtain the first and fourth place. In 2005, second and third place. It is necessary to remark that the team which obtained the first place in 2006 also gained access to the 2007 ACM-ICPC World Finals, turning into the first Chilean team attending at such an event.
- (2003) Second prize in the X CLEI-UNESCO Latin American Computer Science MSc Theses Contest (for theses accomplished during 2002).
- (2002) Grant for conference attendance and research stay given by the DCC, UChile, MECESUP Project UCH0109.
- (2002–2006) Doctoral studies scholarship given by Millennium Nucleus Center for Web Research, DCC, UChile, Grant P01-029-F, Mideplan, Chile.
- (2002) Doctoral studies scholarship given by Facultad de Ciencias Físicas y Matemáticas, UChile.
- (2001–2007) Scholarship for postgraduate studies (master and doctorate) given by DCC, UChile.

## 4 Research

### 4.1 Research Projects

1. (2013–2015) Main Researcher in the Fondecyt (Chile) Project 1131044 “*Engineering metric space indices in secondary memory and applications*”, CLP 75,046,000  $\approx$  USD 159,000. Fondecyt program is managed by Conicyt, the scientific agency of the Chilean government.

## 4.2 Conference Proceedings

1. Gonzalo Acuña, Jorge Baier, Javier Bustos-Jiménez, Claudio Cubillos, and Rodrigo Paredes (editors). *Proceedings of the 30th International Conference of the Chilean Computer Science Society (SCCC 2011)*, Curicó, Chile, November 2011. IEEE Computer Society Press. ISBN 978-1-4673-1364-3.

## 4.3 Articles in International Journals

1. Karina Figueroa, Rodrigo Paredes, Antonio Camarena-Ibarrola and Héctor Tejeda-Villela. Improving the permutation-based proximity searching algorithm using zones and partial information. *Pattern Recognition Letters*, 95:29–36, Agosto 2017. doi:10.1016/j.patrec.2017.04.012.
2. Miguel Lagos, Rodrigo Paredes and César Retamal. High Precision Energy Measurements from the Analysis of Wide Spectral Features. Application to the fluorescence of YAG:Ce<sup>3+</sup>. *Journal of Photochemistry and Photobiology A: Chemistry*, 344:163–167, Julio 2017. doi:10.1016/j.jphotochem.2017.05.005.
3. Francisco Flores, Rodrigo Paredes and Federico Meza. Procedures for Mitigating Cybersecurity Risk in a Chilean Government Ministry. *IEEE Latin America Transactions*, Vol. 14, No. 6, June 2016.
4. Gonzalo Navarro, Rodrigo Paredes, Nora Reyes, and Cristian Bustos. An Empirical Evaluation of Intrinsic Dimension Estimators. To appear in *Information Systems*. doi:10.1016/j.is.2016.06.004.
5. Miguel Lagos y Rodrigo Paredes. Thermal quenching of fluorescence in condensed media. *Solid State Communications*, 242:52–56, 2016, doi:10.1016/j.ssc.2016.04.029.
6. Miguel Lagos and Rodrigo Paredes. Shape of the Absorption and Fluorescence Spectra of Condensed Phases and Transition Energies. *The Journal of Physical Chemistry A*, 118(45):10754–10762, 2014, doi:http://pubs.acs.org/doi/abs/10.1021/jp508605c.
7. Gonzalo Navarro, Rodrigo Paredes, Patricio Poblete, and Peter Sanders. Stronger Quickheaps. *International Journal of Foundations of Computer Science (IJFCS)*, 22(4):945–969, 2011, doi:10.1142/S0129054111008507.
8. Gonzalo Navarro and Rodrigo Paredes. On sorting, heaps, and minimum spanning trees. *Algorithmica*, 57(4):585–620, 2010, doi:10.1007/s00453-010-9400-6. ISI Impact Factor 0.756, relative position 210 out of 382 computer science journals in JCR.
9. Karina Figueroa, Edgar Chávez, Gonzalo Navarro, and Rodrigo Paredes. Speeding up spatial approximation search in metric spaces. *ACM Journal of Experimental Algorithmics (JEA)*, 14:article 3.6, 2009. 21 pages, doi: http://doi.acm.org/10.1145/1498698.1564506.
10. Rodrigo Paredes and Nora Reyes. Solving similarity joins and range queries in metric spaces with the list of twin clusters. *Journal of Discrete Algorithms (JDA)*, 7:18–35, 2009, doi:10.1016/j.jda.2008.09.012.
11. Gonzalo Navarro, Rodrigo Paredes, and Edgar Chávez. *t*-Spanners for Metric Space Searching. *Data & Knowledge Engineering (DKE)*, 63(3):818–852, 2007, doi:10.1016/j.datak.2007.05.002. ISI Impact Factor 1.144, relative position 142 out of 382 computer science journals in JCR. 2 citations.

#### 4.4 Articles in National and Regional Journals

1. Patricia Roggero, Nora Reyes, Karina Figueroa y Rodrigo Paredes. List of Clustered Permutations in Secondary Memory for Proximity Searching. *Journal of Computer Science & Technology*, 15(2):107–113, 2015.

#### 4.5 Patents

1. Gonzalo Navarro and Rodrigo Paredes. *Data structure for implementing priority queues*. July 2010. US Patent No 20100180057, assigned to Yahoo!. <http://www.freepatentsonline.com/y2010/0180057.html>.

#### 4.6 Articles in International Conferences

1. Karina Figueroa, Rodrigo Paredes, J. Antonio Camarena-Ibarrola, and Nora Reyes. Fixed Height Queries Tree Permutation Index for Proximity Searching. En *Proceedings of the 9th Mexican Conference on Pattern Recognition (MCPR'17)*, pages 74–83, 2015. LNCS 10267.
2. Cristian Bustos, Gonzalo Navarro, Nora Reyes, and Rodrigo Paredes. An Empirical Evaluation of Intrinsic Dimension Estimators. In *Proceedings of the 8th International Conference on Similarity Search and Applications (SISAP'15)*, pages 125–137, 2015. LNCS 9371.
3. Karina Figueroa and Rodrigo Paredes. Dynamic Permutation Based Index for Proximity Searching. In *Proceedings of the 8th International Conference on Similarity Search and Applications (SISAP'15)*, pages 97–102, 2015. LNCS 9371.
4. Karina Figueroa y Rodrigo Paredes. Boosting the Permutation Based Index for Proximity Searching. In *Proceedings of the 7th Mexican Conference on Pattern Recognition (MCPR'15)*, LNCS 8495, pages 102–111. Springer, 2015.
5. Jorge Arroyuelo, Susana Esquivel, Alejandro Grosso, Verónica Ludueña, Cintia Martínez, Nora Reyes, Edgar Chávez, Karina Figueroa, Gonzalo Navarro, Manuel Hoffhein and Rodrigo Paredes. Bases de Datos no Convencionales: Índices y Lenguajes de Consulta *Workshop de Investigadores en Ciencias de la Computación (WICC'15)*, 2015. In Spanish.
6. Renzo Angles, Valeria Araya, Jesus Concha, and Rodrigo Paredes. Comparison of methods to assess similarity between phrases. In *Proceedings of the 19th Iberoamerican Congress on Pattern Recognition (CIARP 2014)*, LNCS 8827, pages 255–263. Springer, 2014.
7. José María Andrade, César Alejandro Astudillo, and Rodrigo Paredes. Metric space searching based on random bisectors and binary fingerprints. In *Proceedings of the 7th International Conference on Similarity Search and Applications (SISAP 2014)*, LNCS 8821, pages 50–57. Springer, 2014.
8. Karina Figueroa and Rodrigo Paredes. An effective permutant selection heuristic for proximity searching in metric spaces. In *Proceedings of the 6th Mexican Conference on Pattern Recognition (MCPR'14)*, LNCS 8495, pages 102–111. Springer, 2014.
9. Karina Figueroa and Rodrigo Paredes. List of Clustered Permutations for Proximity Searching. In *Proceedings of the 6th International Conference on Similarity Search and Applications (SISAP'13)*, LNCS 8199, pages 50–58. Springer, 2013.
10. Karina Figueroa and Rodrigo Paredes. Compact and efficient permutations for proximity searching. In *Proceedings of the 4th Mexican Conference on Pattern Recognition (MCPR'12)*, LNCS 7329, pages 207–215. Springer, 2012.

11. Renzo Angles, Rodrigo Paredes, Federico Meza, Marcos Gutiérrez, Felipe Valdebenito, and Danilo Yáñez. Web-based refining of machine translations. In *Proceedings of the XXX Conference of the Chilean Computer Science Society (SCCC'11)*, pages 43–46. IEEE, 2011.
12. Karina Figueroa, Rodrigo Paredes, and Roberto Rangel. Efficient Group of Permutants for Proximity Searching. In *Proceedings of the 3rd Mexican Conference on Pattern Recognition (MCPR'11)*, LNCS 6718, pages 42–49. Springer, 2011.
13. Marcelo Barroso, Nora Reyes, and Rodrigo Paredes. Enlarging nodes to improve dynamic spatial approximation trees. In *Proceedings of the 3rd International Conference on Similarity Search and Applications (SISAP'10)*, pages 41–48. ACM Press, 2010.
14. Karina Figueroa and Rodrigo Paredes. Approximated direct and reverse nearest neighbor queries, and the  $k$ -nearest neighbor graph. In *Proceedings of the 2nd International Workshop on Similarity Search and Applications (SISAP'09)*, pages 91–98. IEEE Computer Society Press, 2009. 1 citation.
15. Mauricio Marin, Rodrigo Paredes, and Carolina Bonacic. High-performance priority queues for parallels crawlers. In *Proceedings of the 10th ACM International Workshop on Web Information and Data Management (WIDM'08)*, pages 47–54. ACM, 2008.
16. Rodrigo Paredes and Nora Reyes. List of twin clusters: a data structure for similarity joins in metric spaces. In *Proceedings of the 1st International Workshop on Similarity Search and Applications (SISAP'08)*, pages 131–138. IEEE Computer Society Press, 2008. Selected for a special issue of the *Journal of Discrete Algorithms* dedicated to the best SISAP'08 papers.
17. Rodrigo Paredes, Edgar Chávez, Karina Figueroa, and Gonzalo Navarro. Practical Construction of  $k$ -Nearest Neighbor Graphs in Metric Spaces. In *Proceedings of the 5th International Workshop on Experimental Algorithms (WEA'06)*, LNCS 4007, pages 85–97. Springer, 2006. 5 citations.
18. Karina Figueroa, Edgar Chávez, Gonzalo Navarro, and Rodrigo Paredes. On the least cost for proximity searching in metric spaces. In *Proceedings of the 5th International Workshop on Experimental Algorithms (WEA'06)*, LNCS 4007, pages 279–290. Springer, 2006. Selected for a special issue of the *ACM Journal of Discrete Algorithms* dedicated to the best WEA'06 papers. 10 citations.
19. Rodrigo Paredes and Gonzalo Navarro. Optimal Incremental Sorting. In *Proceedings of the 8th Workshop on Algorithm Engineering and Experiments (ALENEX'06), and the 3rd Workshop on Analytic Algorithmics and Combinatorics (ANALCO'06)*, pages 171–182. SIAM Press, 2006. 3 citations.
20. Rodrigo Paredes and Edgar Chávez. Using the  $k$ -nearest neighbor graph for proximity searching in metric spaces. In *Proceedings of the 12th International Symposium on String Processing and Information Retrieval (SPIRE'05)*, LNCS 3772, pages 127–138. Springer, 2005. 8 citations.
21. Rodrigo Paredes. Using  $t$ -spanners for metric space searching. In *Proceedings of the 29th Latin American Conference on Informatics (CLEI'03)*, abstract on pages 160–161, 2003. Second prize in the 10th CLEI-UNESCO Contest of Latin American Computer Science MSc Thesis. In Spanish.
22. Rodrigo Paredes. An online sorting application: Efficient construction of the Minimum Spanning Tree. In *Proceedings of the 29th Latin American Conference on Informatics (CLEI'03)*, abstract on page 95, 2003. In Spanish.
23. Gonzalo Navarro and Rodrigo Paredes. Practical construction of metric  $t$ -spanners. In *Proceedings of the 5th Workshop on Algorithm Engineering and Experiments (ALENEX'03)*, pages 69–81. SIAM Press, 2003. 9 citations.

24. Gonzalo Navarro, Rodrigo Paredes, and Edgar Chávez. *t*-Spanners as a data structure for metric space searching. In *Proceedings of the 9th International Symposium on String Processing and Information Retrieval (SPIRE'02)*, LNCS 2476, pages 298–309. Springer, 2002. 3 citations.

#### 4.7 Articles in National and Regional Conferences

1. Jorge Arroyuelo, Susana Esquivel, Alejandro Grosso, Vernica Luduea, Cintia Martnez, Nora Reyes, Edgar Chvez, Karina Figueroa, Gonzalo Navarro, Manuel Hoffhein y Rodrigo Paredes. Bases de Datos no Convencionales: ndices y Lenguajes de Consulta En *Workshop de Investigadores en Ciencias de la Computacin (WICC'15)*, 2015.

#### 4.8 Invited Talks

- Invited plenary talk at the *Chilean Congress of Computing (JCC'09)*, Santiago, Chile. Title: “On Sorting, Heaps, and Minimum Spanning Trees”.
- (2003–) 9 invited talks in 8 visits to several research centers: Universidad Michoacana (Morelia, Mexico), Universidad Tecnológica de Panamá (Panama City, Panama), Universidade da Coruña (A Coruña, Spain), Universitat Politècnica de Catalunya (Barcelona, Spain), Universitat Pompeu Fabra (Barcelona, Spain), Tohoku University (Sendai, Japan), Università di Bologna (Bologna, Italy).

#### 4.9 Research Stays

1. (2008–2009) PosDoct, Database Laboratory, Universidade da Coruña, España (duration: six months). Research topic: natural language compression.
2. (2008) PosDoct, Yahoo! Research Santiago de Chile (duration: six months). Research topics: algorithms for metric space joins and priority queues for web crawling.
3. (2006) Department of Languages and Informatics Systems at Universitat Politècnica de Catalunya, España (duration: two weeks). Research topics: algorithm engineering and experimental algorithms.
4. (2003) Computation laboratory at Facultad de Ciencias Físico-Matemáticas, Universidad Michoacana de San Nicolás de Hidalgo, México (duration: two months). Research topics: metric spaces, isometric embeddings of metric spaces, and probabilistic *t*-spanners.

#### 4.10 Refereeing and Program Committees

- (2011) PC Chair of the *23rd Encuentro Chileno de Computación (ECC'11)*, Curicó, Chile, together with César Astudillo.
- (2009–) Program committee member of *Latin American Conference on Informatics (CLEI '10)*, *Latin American Computer Science MSc Theses Contest (CLTM'13)*, *Encuentro Chileno de Tesistas (ET'13)*, *International Conference on Enterprise Information Systems (ICEIS'09, '10, '11, and '13)*, *International Conference of the Chilean Computer Society (JCC'10, '11, '12, and '13)*, *International Conference on Logistics, Informatics and Service Science (LISS'11 and '12)*, *International Conferences on Pervasive Patterns and Applications (PATTERNS'11 and '12)*, and *Argentinian Workshop of Databases and Data Mining (WBDMD'13)*.

- (2008–) Referee of papers for the following journals: *Information Sciences (INS)* and *ACM Journal of Experimental Algorithmics (JEA)*, *Journal of Theoretical and Applied Electronic Commerce Research (JTAER)*, and *The Computer Journal (COMPJ)*.
- (2006–) Coreferee of papers for the following journals: *Data & Knowledge Engineering (DKE)*, *Information Processing & Management (IPM)*, *ACM Journal of Experimental Algorithmics (JEA)*, *Pattern Recognition Letters (PRL)*, and *IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE TPAMI)*.
- (2003–) Co-referee of papers for the following conferences: *Workshop on Algorithm Engineering and Experiments (ALENEX'07)*, *ACM Conference on Information and Knowledge Management (CIKM'06, '08, and '09)*, *Chilean Congress on Computing (ECC'08)*, *International Conference on Database Theory (ICDT'07)* *Latin American Symposium on Theoretical Informatics (LATIN'04, '06, and '08)*, *ACM Symposium on Principles of Database Systems (PODS'11)*, *ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR'12)*, *International Conference on Similarity Search and Applications (SISAP'08, '09 and '13)*, *International Symposium on String Processing and Information Retrieval (SPIRE'05)*, *International Workshop on Experimental Algorithms (WEA'06)*, *ACM International Conference on Web Search and Data Mining (WSDM'09)*, *International World Wide Web Conference (WWW'09)*, and *Workshop on Parallel, Distributed and Mobile Systems (WSDP'11)*.

#### 4.11 Conference Attendance

- Participation in the organization of Jornadas Chilenas de Computación 2011 (JCC'11). Responsibilities: local information, local organization and logistics. November 7–11, 2011. Hotel Villa el Descanso, Curicó, Chile. <http://jcc2011.utalca.cl/index.php/en>.
- (1996–) Attendance to 27 national or international conferences on computer science and related fields. In 1996–2006, I have attended as volunteer student in 7 events. Since 2002, I have attended as expositor 12 times. Since 2010, I served as session chair twice.

## 5 Teaching

### 5.1 Regular Courses

- (2010–) *Seminar of Algorithms*, Department of Computer Science (DCC), Universidad de Talca (UTalca).
- (2010–) *Discrete Data Structures*, DCC, UTalca.
- (2010–) *Algorithms and Data Structures*, DCC, UTalca.
- (2009) *Computer algorithms*, course of the Master's program in Information and Communication Technologies, Universidad Tecnológica de Panamá.
- (2009–) *Models of computation*, DCC, UTalca.
- (2009) *Workshop of Programming*, DCC, UTalca.
- (2007–2008) *Logic and Analysis of Algorithms*, School of Engineering, Universidad Nacional Andrés Bello (UNAB).
- (2006–2007) *Data Structures*, School of Engineering, UNAB.
- (2005–2007) *Workshop on Implementation of Algorithms and Data Structures*, under- and post-graduate course, DCC, University of Chile (UCHile).

- (2002–2003) *Programming Languages*, School of Engineering, UNAB.
- (2002) *Algorithms and Data Structures*, DCC, UChile.
- (1996–2003) Teaching assistant of several courses:
  - *Design and Analysis of Algorithms* (under- and post-graduate course, 2002–2003), *Databases* (under- and post-graduate course, 2002), *Algorithms and Data Structures* (2000–2002), and *Computer Science II* (2001), DCC, UChile.
  - *Computer Networks* (2000) and *Information Processing Systems* (1998), Department of Electrical Engineering (DIE), UChile.
  - *Statistics* (1997–1999), Department of Mathematical Engineering, UChile.
  - *Operations Research* (1997), Department of Industrial Engineering (DII), Universidad Diego Portales.
  - *Optimization* (1996–1998), DII, UChile.
- (1995–2002) Courses *Physics* and *Mathematics* at Preuniversitario José Carrasco Tapia (JCT), School of Engineering, Universidad de Chile. JCT is a student non-profit organization. Its mission is to prepare young people at social risks so as to take the University Appliance Test in better academic conditions. This way, JCT helps to break the poverty circle in Chile.

## 5.2 Intensive Courses

- (2003) *Advanced Algorithms*, 50-hours course for the MSc program in Computer Science at three Bolivian universities: Universidad Mayor de San Simón, Cochabamba; Universidad Mayor de San Andrés, La Paz; and Universidad Autónoma Gabriel René Moreno, Santa Cruz.
- (1999–2000) Teaching assistant of *Laboratory of Basic IP* and *Laboratory of VoIP*, Postgraduate Diploma in Internetworking, DIE, UChile.
- (1998) Teaching assistant of *Quantitative Methods* at MBA UChile–ESADE, DII, UChile.

## 5.3 Student Supervision

- Currently, supervising one (1) engineering student from Universidad de Talca (Chile).
- (2011–) Supervisor of eighteen (18) engineers from Universidad de Talca (Chile) and Universidad Mayor (Chile).
- (2006–) Member of the committee of five (5) MSc dissertations from Universidad de Talca (Chile) and University of Chile.

# 6 Outreach, Extension, Vinculation and Academic Administration

## 6.1 Outreach and Vinculation Projects

1. (2015) Co-advisor of VIU-FONDEF (Chile) Project VIU15P0133 “*Sistema de Auditoria Teleasistida*”. CLP 26,000,000  $\approx$  USD 38,800 (according to exchange rate of august, 2016). VIU-FONDEF is a Conicyt —the scientific agency of the Chilean government— program focused in encourage entrepreneurship of students based on improving their final projects.
2. (2013) Advisor of VIU-FONDEF (Chile) Project VIU130027 “*Desarrollo y gestión de un software médico orientado a pequeños centros de salud*”, CLP 26,000,000  $\approx$  USD 45,528 (according to exchange rate of august, 2014).



3. (2013) Alternate director of Explora-Conicyt (Chile) Project ED17049 “*Descubriendo Talentos Científicos (DTC)*”, CLP 14,068,220  $\approx$  USD 29,600. Explora is a division of Conicyt focused in scientific outreach to non-university educational community.

## 6.2 Outreach and Extension Activities

- (2009–) Member of the Computer Science Chilean Society (SCCC).
- (2009–) Member of the Organization Committee of the contest “Descubriendo Talentos Científicos” (DTC, translation: “Finding Scientific Talents”). DTC is a contest focused on students from high school and aims to awake their interest on science via research and implementation of small projects. Finally, these projects are presented in a scientific fair.

## 6.3 Academic Consulting

- (2010–) Evaluator of projects for *FONDECYT* Chile (Initiation into Research Funding Competition and Regular Competition).
- (2011–) Evaluator of projects for *CONICYT* Chile (Insertion of Advanced Human Capital into Chilean Industry Competition).

## 7 Industrial Development

- (2006) Expert’s report about slot machines in order to determine whether the analyzed machines work at random. The report was submitted to the Economics court, in the city of Santiago, Chile.
- (2005) Design of a system for cheating detection in Internet connections through TV Cable. The system is based on signal processing using contrast and median filtering. It was designed for the telecommunication company *VTR* (Chile).
- (2000–2002) Network hardware evaluation and development of software for network management and VRML applications at AT&T Latin America Chile, Dept. of Engineering and Development (part-time engineer). Part of this work was worth for my second professional practice of computer engineer.
- (1999) Third professional practice of electrical engineer. Validation and testing of experimental activities, and teaching assistant at the *Laboratory of Basic Routing* of the Postgraduate Diploma in Internetworking, Department of Electrical Engineering, UChile.
- (1998–1999) Administration of computer networks and seismological equipment at the Section of Seismology, Department of Geophysics, UChile.
- (1998) Development and documentation of the information system for Basic-and-Progressive Dwelling, at *Sistemas Integrales Ltda.*
- (1997) Second professional practice of electrical engineering. Study of Frame-Relay technical feasibility at Department of Private Services, CTC - Mundo.
- (1996) First professional practice of electrical engineering. Computer maintenance and customer care at *Servicios Electrónicos S.A.*

## 8 Personal Skills

- Language skills: Native Spanish, intermediate-advanced English. Certifications: ETAAPP, 83%, October 19th, 2010; APTIS, 179 (out of 200) points, October 24th, 2013; TOEIC, 805 (out of 990) points, May 16th, 2014.
- Programming: C, C++, Perl, Java, SQL, Scheme, Pascal, Prolog, VRML, ...
- General computer skills: Unix/Linux user, MS Windows user, Mac OSX user,  $\LaTeX$ , MS Office, Mozilla, MATLAB, Statit, R, Lindo, MAPLE, ...

### **Rodrigo Paredes**

PhD in Computer Science

MSc in Computer Science

Computer Engineer

Electrical Engineer

Curicó, Chile, March 13, 2018.