

# CURRICULUM VITAE

## 1 Personal Information

Name : Daniel Alejandro Valenzuela Serra  
Nationality : Chilean  
Occupation : PhD Student  
E-mail : [dvalenzu@cs.helsinki.fi](mailto:dvalenzu@cs.helsinki.fi)  
Homepage : <http://users.dcc.uchile.cl/~dvalenzu>

## 2 Personal Statement

I am an eager person who feels a strong attraction for sciences in general. Also teaching is one of the activities I enjoy the most. Although my range of interests is wide, I have focused my academic work in computer science. In particular, I found design and analysis of algorithms a very appealing field. Since the beginning of my Engineer Thesis I have been working on self indexing and succinct data structures, mainly applied to text databases. My current work focuses on the application of succinct data structures to genome-scale data analysis.

## 3 Studies

- (2013 - ) PhD. student in Computer Science. University of Helsinki.
- (2010-2013) M.Sc. in Computer Science. University of Chile.
- (2002-2009) Computer Engineer. University of Chile.
- (2002-2009) Bachelor in Engineering Sciences, University of Chile.

## 4 Distinctions and scholarships

- M.Sc. Thesis funded by the Millennium Institute for Cell Dynamics and Biotechnology (ICDB), Grant ICM P05-001-F, Mideplan, Chile.
- Engineer Thesis funded by project Fondecyt 1-080019, Mideplan, Chile.
- 2<sup>nd</sup> Place, ACM-ICPC National Programming Contest 2005.
- 3<sup>rd</sup> Place, National Mathematical Olympiad 2001, CPIP, Santiago, Chile.

## 5 Peer-Reviewed Publications

- **“General Document Retrieval in Compact Space”**, Gonzalo Navarro, Simon Puglisi, and Daniel Valenzuela. ACM Journal of Experimental Algorithms (JEA). To appear.
- **“Improved Compressed Indexes for Full-Text Document Retrieval”**, G. Navarro, D. Belazzougui, D. Valenzuela, Journal of Discrete Algorithms (JDA), 2013.
- **“Space-Efficient Top-K Document Retrieval”**, G. Navarro and D. Valenzuela, Proc. SEA’12.
- **“Practical Compressed Document Retrieval”**, G. Navarro, D. Valenzuela and S. Puglisi, Proc. SEA’11.

## 6 Teaching

- (2011) Teacher Assistant: “Computing Theory”. Department of Computer Science, University of Chile.
- (2008-2010) Lecturer: “Introduction to Physics”. Department of Engineering University Andres Bello, Chile.
- (2008-2009) Teacher Assistant: “Algorithms and Data Structures”. Department of Computer Science, University of Chile.
- (2005-2007) Teacher Assistant: “Introduction to Physics”. Department of Physics, University of Chile.

## 7 Professional experience

- (2009 - Present) As part of my work as a researcher I have implemented and tested novel algorithms and data structures in C/C++. (see Section 5)
- (2012, August-December) Development in Apache Pig / Hadoop, processing large data sets. Simple S.A. Chile.
- (2008, April-June) Design and development of a Social Network prototype. This work was carried out using agile methodologies. Everis Chile.
- (2007, October - 2008, January) Design and development of a system to help and control applications for the Master in Global Management (MGPG) , Department of Industrial Engineering, University of Chile.
- (2005, 2006 and 2007; March- July) Member of the organization of the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> Iwamoto Tournament. A Go tournament hold on Internet. Chilean National Go Association ([www.achgo.cl](http://www.achgo.cl)).
  - Production, organization and advertising.
  - Programing (PHP and MySql) of some modules.
  - Programing of a swiss-like pairing system in Java.
- (2006, January) Documenting and testing of a software developed for Codelco. Nuwit S.A.
- (2005, December) Business Intelligence report of a SMS based game, for Entel S.A. Nuwit S.A.

## 8 Others Interests and Activities

- (2009-Present) Tango dancer.
- (2003-Present) Go player.
- (2006-2007) Secretary of National Chilean Go Association ([www.achgo.cl](http://www.achgo.cl)).
- (2005-2007) Member of the organization and part of the development team of the Iwamoto Tournament, an international Go Tournament held on Intenet, meeting more than 500 Go players from more than 30 Countries.