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Esteban L. Vallés

Work Experience	The Aerospace Corporation: Senior Member of Tech. Staff. Feb. 2007 – Present El Segundo, CA Working on next generation GPS technology and channel coding algorithm implementation.
	Hughes Research Laboratories: Intern. April 2006 – September 2006 Malibu, CA Worked on the re-design of GM's Onstar wireless communication system for vehicle networks.
	Jet Propulsion Laboratory: Intern. June 2005 – September 2005 Pasadena, CA Worked on circuit timing recovery using feedback from an iterative channel decoder.
	Hitachi GST: Intern. June 2004 – September 2004 San Jose, CA Worked on channel coding algorithms for magnetic recording applications.
	Univ. of California, Los Angeles: Graduate Student Researcher June 2002 – Feb. 2007 Los Angeles, CA Worked under the supervision of Prof. John Villasenor and Prof. Richard Wesel in applications related with LDPC codes, array codes and timing and carrier recovery problems.
	University of California, Irvine: Graduate Student Researcher September 2000 – May 2002 Irvine, CA Worked under the supervision of Prof. Rui J.P. de Figueiredo on near optimum performance decoding algorithm for V-Blast Systems.
	Neural Computing Systems Part-time software engineer September 2000 – March 2001 Irvine, CA Worked on database analysis (Data Mining) and image processing algorithms.
Teaching Assistant University of California, Los Angeles. Communication Systems (EE-132A). 2005 University of California, Los Angeles. Systems and Signals (EE-102). 2004 University of California, Irvine. Engineering Probability. 2001 Universidad Nacional del Sur, Argentina. Control Systems I and Circuits Theory I. 1999 -2000	
Education	September 2002 – Feb. 2007 University of California, Los Angeles Los Angeles, CA Doctor of Philosophy (Ph.D.), Electrical Engineering Fields of interests: Channel coding applications including LDPC and algebraic codes. Hardware implementation of error correcting code decoders. Timing and carrier recovery problems using feedback from error correcting codes. GPA = 3.91/4.00
	September 2000 – May 2002 University of California, Irvine Irvine, CA Master of Science (M.S.), Electrical and Computer Engineering Specialization in Communication and Signal Processing. GPA = 3.82/4.00
	March 1995 – June 2000 Universidad Nacional del Sur Bahía Blanca, Argentina Engineer (equivalent to 5 year B.S. program), Electronics Engineering Specialization in Telecommunications. GPA = 9.01/10.00. Ranked 1 st in class .
Work Status	US Citizen.
Publications	- Esteban Valles, Christopher Jones, Richard Wesel and John Villasenor "Carrier Phase-Synchronization via LDPC Code Feedback". (Submitted to Transactions in Comm.)
	- Miguel Griot, Esteban Valles, Andres I.Vila Casado, Richard Wesel and Mihaela van der Schaar "Bargaining- Based Joint Source-Channel Resource Allocation for Collaborative Multimedia Networks". (Under Preparation)
	- Esteban Valles, Christopher Jones, Richard Wesel and John Villasenor "Carrier and Timing Synchronization of BPSK via LDPC Code Feedback". IEEE 40 th Asilomar Conference on Signals, Systems and Computers, Oct. 2006.
	- Marvin Simon, Esteban Valles, Christopher Jones, Richard Wesel and John Villasenor " "Information-Reduced Carrier Synchronization of BPSK and QPSK Using Soft Decision Feedback". IEEE 44 th Allerton Conference on Communication, Control, and Computing, 2006. Pacific Grove, CA Nov. 2006.

- Marvin Simon, Esteban Valles and Christopher Jones “Joint Carrier-Phase Synchronization and LDPC Decoding” NASA Tech Brief for NTR 43656.

- Dong Lee, Esteban Valles, Christopher Jones and John Villasenor “Pilotless Iterative Symbol Timing Recovery via LDPC Code Constraint Feedback” NASA Tech Brief for NPO 43112

- Dong Lee, Esteban Valles, Christopher Jones and John Villasenor “Joint LDPC Decoding and Timing Recovery Using Code Constraint Feedback”. IEEE Communications Letters, volume 10, number 3, pages 189-191, Mar 2006.

- Esteban Valles, Andres Vila-Casado , Richard Wesel, Mario Blaum and John Villasenor “ Hamming Codes are the most rate-efficient Array Codes” IEEE Globecom 2005.

- Christopher Jones, Esteban Valles, Michael Smith and John Villasenor “ Approximate-Min* Constraint Node Updating for LDPC Code Decoding” IEEE Milcom . Boiston, MA, 2003.

Awards received	NASA Tech Brief Award , In recognition of “Joint carrier-phase synchronization and low-density parity-check code decoding”, Jan. 2007. NASA Tech Brief Award , In recognition of “Pilotless Iterative Symbol Timing Recovery via LDPC Code Constraint Feedback”, July 2006. Eugene Cota-Robles Fellowship at UC Los Angeles for Doctoral Studies. 2002-2006 Fast Track to Professoriate Award at UC Irvine. Funded by NSF. 2001-2002 California Micro Fellowship for graduate studies (2000-2001) Medal for Best Electrical Engineering Graduate. Universidad Nacional del Sur, Argentina 2000. Fellowship for “Best Engineering GPA”. Universidad Nacional del Sur, Argentina March 1999.
Reviewer for	IEEE Comm. Letters, IEEE Transactions in Comm., IEEE Transactions on Magnetics , IEEE ICC, IEEE VTC. <i>Programming:</i> C++, Verilog/VHDL, Visual C++ (MFC), Html, Python, Intel Assembler.
Computer Skills	<i>Other Tools:</i> MATLAB, Maple, PSpice, ModelSim, Windows, Linux, QNX
Relevant Classes	Undergraduate: DSP, Information Theory, Estimation Theory, Feedback Control I & II, Digital Control of Dynamic Systems, Power Electronics, Micro Electronics, Programming Languages I & II . Graduate: Comp. Algorithms, Random Signals, Communication Theory, D.S.P, Machine Vision, Image Rendering, Linear Systems, O.O. Programming, Computer Networks, Linear Optimization, Error Correcting Codes, TCM Modulation, Digital Communications, Wireless Communications, Adaptive Filters, Queuing Theory, Stochastic Modeling, Channel Coding Theory, Multimedia Communications and Processing.
References	John Villasenor , Professor University of California Los Angeles. E-mail: villa@icsl.ucla.edu Richard Wesel , Professor University of California Los Angeles. E-mail: wesel@ee.ucla.edu Christopher Jones Jet Propulsion Laboratory. E-mail: christop@jpl.nasa.gov More references are available upon request