

# ADAM T. ARNESEN

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## Summary of Qualifications

Computer and software engineer with expertise in IP reuse methodologies, compiler and high level synthesis technology for FPGAs, and FPGA hardware design. Experience in training, organization and leadership. A reliable and responsible worker and team member with people skills.

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## Education

Brigham Young University, Provo, UT	BS Electrical Engineering – 2009	GPA: 3.66/4.00
	MS Computer Engineering – 2011	GPA: 3.85/4.00
Rocky Mountain NASA Space Grant Fellowship - \$2000/semester		

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## Course Work

ECEn 620 – Advanced Digital Logic Design	ECEn 522R – Computer System Reliability
ECEn 621 – Computer Arithmetic	ECEn 427 – Embedded Systems
ECEn 625 – Synthesis and Optimization of Digital Circuits	ECEn 451 – Digital VLSI
ECEn 629 – Reconfigurable Computing Systems	ECEn 450 – Semiconductor Devices
ECEn 682 – Medical Imaging Signals & Systems	ECEn 452 – Experiments in IC Development
ECEn 550 – MEMS	

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## Work and Other Experience

- National Instruments – Staff Software Engineer (Apr '11 – Present)
  - Developing software for the LabVIEW FPGA compiler.
  - Recruiting and interviewing college graduates for intern and full-time positions.
- National Instruments – Software Engineer III (Intern) (May '10 – Apr '11)
  - Developing software for LabVIEW FPGA
  - Collaborating on University research through CHREC partnership
- Brigham Young University Configurable Computing Lab (Nov '07 – Apr '11)
  - Participated in NSF Center for High Performance Reconfigurable Computing (CHREC)
  - Developed automatic interface and timing synthesis tools for software radio
  - Researched and developed extensions to the IP-XACT standard for describing temporal behavior and high-level data types for IP cores
  - Presented at Semiannual CHREC Conferences (June 2008, December 2009)
- Student – Provo City Alliance (SPCA) (June '09 – Present)
  - Participated in writing incorporation documents and bylaws to obtain legal non-profit status
  - Produced and published voters guides for municipal elections
  - Designing and maintaining website including video production
- Full-time Missionary for The Church of Jesus Christ of Latter-day Saints (May '04 – May '06)
  - Philippines Manila Mission
  - Built statistics collection and analysis tool as Assistant to the President
  - Supervised and regularly trained 20 - 200 other missionaries

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## Publications

- A. Arnesen, "Increasing Design Productivity for FPGAs Through Intellectual Property Reuse and Meta-Data Encapsulation," M.S. Thesis, Dept. of Electrical and Computer Engineering, Brigham Young University, Provo, Utah, 2011
- N. Rollins, A. Arnesen, and M. Wirthlin, "An XML schema for Representing Reusable IP Cores for Reconfigurable Computing," in *Proc. of the National Aerospace and Electronics Conference (NAECON 2008)*, July 2008.
- A. Arnesen, N. Rollins, and M. Wirthlin, "A Multi-Layered XML Schema and Design Tool for Reusing and Integrating FPGA IP," in *Proc. of 19th International Conference on Field Programmable Logic and Applications (FPL 2009)*, August 2009.
- A. Arnesen, "Meta-data and Interface Synthesis Techniques for Improving Design Productivity in Reconfigurable Computing," in *Proc. of the Rocky Mountain NASA Space Grant Consortium*, May 2010

- A. Arnesen, K. Ellsworth, D. Gibelyou, T. Haroldsen, J. Havican, M. Padilla, B. Nelson, M. Rice, M. Wirthlin, "Increasing Design Productivity Through Core Reuse, Meta-Data Encapsulation, and Synthesis," in *Proc. of 20th International Conference on Field-Programmable Logic and Applications (FPL 2010)*, September 2010.
- A. Arnesen, "Meta-Data-Enabled Reuse of Dataflow Intellectual Property for FPGAs," in proceedings of the Rocky Mountain NASA Space Grant Consortium, May 2011

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### Special Skills & Technical Qualifications

LabVIEW (FPGA)	VHDL and Verilog	IP-XACT
Matlab and Simulink	Java	Microsoft Excel, Word, PowerPoint
XML/XML Schema	C++	Read, Write, and Speak Tagalog (Filipino)
Xilinx ISE (FPGA)	C#/.NET	

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### Honors and Awards

- IEEE Student Paper Competition 3<sup>rd</sup> Place Mountain Region
- Eagle Scout – 3 palms
- National Merit Scholar
- 2002 American Legion Boys' Nation Senator

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### Volunteer and Extra Curricular Experience

IEEE BYU Student Branch Chair	CHOICE Humanitarian Peru Expedition
Lifetime Church Service	Central Utah Science and Engineering Fair Judge
BSA Engineering Merit Badge Counselor	BYU Men's Chorus and Concert Choir (6 years)
BSA Scout Master and Assistant	

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References available upon request.