

MOHAMMAD HOSSEIN ASKARI HEMMAT

CONTACT INFORMATION

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RESEARCH INTEREST

- Hardware acceleration for high performance computing
- Hardware design and verification
- Hardware software co-Design

EDUCATION

- Master of Applied Science in Electrical Engineering
Winter 2013 to Spring 2015, [Concordia University](#)
Total GPA: 4.15/4.3
Formal Hardware Verification A+(4.3/4.3)
Hardware Functional Verification A+(4.3/4.3)
Embedded System Design A(4/4.3)
ECSE-649 VLSI Testing, McGill University A(4/4)
- Bachelor of Science in Electrical Engineering
Shahid Bahonar University of Kerman, Iran, July 2012
Total GPA: 3.2

PUBLICATIONS

- Towards code generation for ARM Cortex-M MCUs from SysML activity diagrams M. H. Askari-Hemmat, O. A. Mohamed and M. Boukadoum, ISCAS - International Symposium on Circuits and Systems 2016, Montreal
- Formal Modeling, Verification and Implementation of a Train Control System M. H. Askari-Hemmat, O. A. Mohamed and M. Boukadoum, ICM 2015 - 27th International Conference on Microelectronics
- Automatic Mapping of AF3 specifications to ARM Cortex-M based FRDM platform M. H. Askari-Hemmat, O. A. Mohamed and M. Boukadoum, ICM 2014 - 26th International Conference on Microelectronics
- Duplication Avoidance for Energy Efficient Wireless Sensor Networks A.Mahani, M. H. Askari-Hemmat and Yousef S. Kaviani, 8th International Symposium on Communication Systems, Networks & Digital Signal Processing (CSNDSP), 2012

LANGUAGES

English, Persian (Native), French (B2)

HONORS AND AWARDS:

- Graduate Student Support Program (GSSP) (April 2014)
- ReSMiQ Scholarship for M.SC students (Feb 2014)
- Partial Tuition Scholarship for International Students (May 2013)
- Graduate Student Support Program (GSSP) (May 2013)
- ReSMiQ Scholarship for M.SC students (Jan 2013)

COMPUTER SKILLS:

- Programming Languages: C/C++, Java, Assembly
- Scripting: Python, Bash
- Hardware Description Languages: SystemVerilog, Chisel, SystemC, VHDL
- Tools and Technologies: Vivado Design Suite, Vivado HLS, Xilinx ISE, KEIL μ Vision
- Operating Systems: Linux, Android, Windows
- Version Control Management: Git, SVN

ACADEMIC EXPERIENCE

- Research Assistant at Concordia University (2013 to April 2015)
Thesis Description:

- Formalizing SysML/UML activity diagrams based on NuAC semantics for ARM Cortex-M processors.
- Developing rules to map SysML/UML activity diagram node to it's equivalent in Keil RTX.
- Developing Java application for automating the process of mapping.
- Formal Verification, modeling and implementation of a Train Control System.
- Working on different hardware formal verification techniques with a special concentration on Model checking.
- Model checking of a Self stabilizing distributed clock Synchronization Protocol using NuSMV model checker and AutoFocus3.
- Teaching Assistant at Concordia University (2013 to present)
 - Teaching and Lab assistant for COEN6711- Microprocessors and their application
 - Programmer On Duty for COEN6541- Functional Verification(System Verilog)
 - Teaching assistant for the course COEN 312-Digital System Design1 and COEN 313- Digital System Design2
 - Lab assistant for the course COEN 311- Computer Organization and Software

WORK EXPERIENCE

- ASIC Verification Engineer at Microsemi (Since July 2016)
 - Working on next generation of Optical Transport Network (OTN) processors
 - Writing tests in SystemVerilog using UVM methodology
 - Developing OTN traffic generator in C++
 - Developing scripts for analyzing test outputs
- Computer Engineer at TRU Simulation + Training (2015-2016)
 - Developing software drivers for various high speed Avionic protocols in C++: Airbus VCOM, AFDX, A429
 - Building custom Linux Kernels as well as maintaining Linux machines for the hosts and re-hosts of the test station.
 - Developing scripts for running various avionic simulation packages.

REFERENCES

- Dr. Otmane Ait Mohamed (Master Thesis Supervisor)
Electrical and Computer Engineering Department
Concordia University
Montreal, Quebec, Canada
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- Dr. Mounir Boukadoum (Master Thesis Co-Supervisor)
Electrical and Computer Engineering Department
Universite du Quebec a Montreal (UQAM)
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- Dr. Sofiene Tahar
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