

# MOHAMMAD HOSSEIN ASKARI HEMMAT

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## PERSONAL INFORMATION

✉ [m.h.askari.hemmat@gmail.com](mailto:m.h.askari.hemmat@gmail.com)  
🌐 <http://hossein1387.github.io/>  
🔗 <https://github.com/hossein1387/>

## RESEARCH INTEREST

- Deep Learning Acceleration
- Computer Architecture

## EDUCATION

- **Ph.D. student** in Electrical and Computer Engineering 2018-  
Polytechnique Montreal, Montreal, Quebec, Canada,  
IFT6135 Representation Learning (Deep Learning)  
ELE8307 Rapid prototyping of digital systems (Designing a CNN accelerator on  
FPGA)
- **Master of Applied Science** in Electrical and Computer Engineering 2013-2015  
Concordia University, Montreal, Quebec, Canada  
Total GPA: 4.15/4.3
- **Bachelor of Science** in Electrical Engineering 2008-2012  
Shahid Bahonar University of Kerman, Iran  
Total GPA: 3.2/4

## PUBLICATIONS

- U-Net Fixed-Point Quantization for Medical Image Segmentation **Mohammad-Hossein AskariHemmat**, Sina Honari, Lucas Rouhier, Christian S. Perone, Julien Cohen-Adad, Yvon Savaria, Jean-Pierre David, MICCAI 2019
- 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

## WORK EXPERIENCE

- **ASIC Verification Engineer** at Microsemi a Michrochip company (June 2016 to June 2018)
  - Working on next generation of Optical Transport Network (OTN) processors.
  - Writing tests in SystemVerilog using UVM methodology.
  - Developing Ethernet traffic generator in C++.
  - Developing scripts for analyzing test outputs.
- **Software 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

## WORKSHOPS

- Organized and presented a one day workshop on **New Methods of Designing Digital Systems**. The workshop was concentrated about how to use open source

hardware tools and IPs with a special focus on risc-v ecosystem. Electrical Engineering Department of Shahid Bahonar University of Kerman, August 2017.

🔗 [http://hossein1387.github.io/riscv\\_workshop/index\\_en.html](http://hossein1387.github.io/riscv_workshop/index_en.html)

HONORS AND AWARDS:	<ul style="list-style-type: none"><li>• Graduate Student Support Program (GSSP) scholarship</li><li>• ReSMiQ Scholarship for M.SC students</li><li>• Partial Tuition Scholarship for International Students</li><li>• Graduate Student Support Program (GSSP) scholarship</li><li>• ReSMiQ Scholarship for M.SC students</li></ul>	<p>Apr 2014</p> <p>Feb 2014</p> <p>May 2013</p> <p>May 2013</p> <p>Jan 2013</p>
LANGUAGES	Persian (Native), English (Fluent), French (B2)	
COMPUTER SKILLS:	<ul style="list-style-type: none"><li>• Machine Learning Frameworks: PyTorch</li><li>• Programming Languages: C/C++, Python, Scala, Bash</li><li>• Hardware Description Languages: SystemVerilog, Chisel, SystemC</li><li>• Version Control Management: Git, SVN</li></ul>	
REFERENCES	<ul style="list-style-type: none"><li>• <b>Jean Pierre David</b> (PhD Supervisor) Electrical and Computer Engineering Department Ecole Polytechnique de Montreal Montreal, Quebec, Canada E-mail: JPDavid@polymtl.ca</li><li>• <b>Yvon Savaria</b> (PhD Co-Supervisor) Electrical and Computer Engineering Department Ecole Polytechnique de Montreal Montreal, Quebec, Canada E-mail: yvon.savaria@polymtl.ca</li></ul>	