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OBJECTIVE

To obtain an entry level hardware design/test engineering position at a high tech. firm.

EDUCATION

M.Eng. (Electrical - Thesis) – McGill University, Montreal *September 2006 to present*
Overall CGPA : 3.93 / 4.0

Specialization in analog/ millimeter-wave/ microwave electronics

B.Eng. (Electrical) – Carleton University, Ottawa, ON *September 2002 to April 2006*
Graduated with Distinction (CGPA of 9.42 / 12.0)

Specialization in analog/mixed signal and microwave electronics

AWARDS AND ACHIEVEMENTS

- **IBM Outstanding Problem Solving Award based on the use of the EIP tool suite**
16th conference on Electrical Performance of Electronic Packaging *October 2007*
- Awarded a Graduate Research Assistantship at McGill University *2006 to present*
- Received an Entrance Scholarship at Carleton University *2002*

AVAILABILITY

Available for full-time placement from **November 2008**. Willing to relocate.

HIGHLIGHTS OF QUALIFICATIONS

Technical Skills :

- Emphasis on millimeter-wave/RF analog IC design, high frequency modeling of integrated passive components, signal integrity testing, package design and modeling.
- Excellent understanding of the design and testing of analog, RF and mixed-signal circuits including VCOs, PLLs, mixers, LNAs, PAs, filters, current mirrors, voltage references and op-amps.
- Strong knowledge of transmission line theory and EM analytical techniques as well as signal integrity issues in high speed interconnects including crosstalk, ground-bounce.
- Experienced in the layout (DRC, LVS, PLS flow) and optimization of analog and mixed signal blocks in advanced Silicon technologies including 90nm and 65nm CMOS using Virtuoso along with Synopsys and Mentor tools.
- Proficient in the use of lab equipment such as vector network analyzers, high-speed oscilloscopes, spectrum analyzers, signal generators, probe stations, etc. for hardware testing.

Software :

- CAD-based circuit simulators : Cadence Design Environment (Spectre, HSPICE, Virtuoso), Agilent ADS, PSpice, Simulink
- 3D Electromagnetic simulators : Ansoft HFSS, CST Microwave Studio, Ansoft Q3D Extractor, SONNET EM, IBM EIP tool suite, Ansoft Designer, ASITIC
- Programming Languages : Matlab, C++, Java

Design Projects :

- Design, layout and testing of a millimeter-wave (60 GHz) voltage controlled oscillator (VCO) with a CML latch divider and a novel inductor miniaturization technique in 90nm CMOS technology. Cadence based tools including SpectreRF, Virtuoso, Synopsys and Mentor tools were used to realize the VLSI chip design.
- Design and layout of a high-speed serial I/O transceiver to be used with a bandpass SIW based interconnect for Gb/s signalling using 90nm CMOS technology.
- Modeling and analysis of integrated inductors for millimeter-wave electronics in the 90nm and 65nm CMOS process technology using commercial high frequency EM software.
- System and transistor level design and layout of a first-order, single-bit, lowpass, discrete time Delta-Sigma Analog to Digital Converter to meet an effective resolution of 8 bits in 0.18um CMOS technology using Cadence based tools and MATLAB.
- Design of a 4 stage ring oscillator that was included in a 5 GHz PLL as part of a 4th year group RFIC design project using 0.18um CMOS technology.
- Design and testing of a 2 GHz microwave amplifier MMIC as well as a 4 GHz MIC edge-coupled bandpass filter MMIC using a vector network analyzer.

Publications :

- D. Kostka and R. Abhari, "Inductance Improvement by using Artificial Magnetic Conductor Surfaces," Proceedings of the 2008 IEEE International Symposium on Antennas and Propagation, July 2008.
- K. Payandehjoo, D. Kostka and R. Abhari, "Analysis of power distribution networks using multiconductor transmission line theory," Proceedings of the 16th conference on Electrical Performance of Electronic Packaging (EPEP), Oct. 2007.
- K. Payandehjoo, D. Kostka and R. Abhari, "Analysis of multiconductor power distribution networks," Proceedings of the North American Radio Science Meeting (URSI), July 2007.

WORK/ VOLUNTEER EXPERIENCE

- **McGill University, Research Assistant, September 2006 - Present**
 - Designed, modeled and tested millimeter-wave analog circuits in advanced CMOS technologies including 65nm and 90nm CMOS, using the Cadence Design Environment and various laboratory equipment.
 - Analyzed and modeled power distribution networks for power integrity analysis using the IBM EIP toolsuite, Ansoft Q3D Extractor and transmission line theory.
- **McGill University, Teaching Assistant, January 2007 – Present**
 - Designed and marked assignments for the graduate level course, **Interconnects and Signal Integrity**.
 - Conducted tutorial sessions as well as designed and marked tests and assignments for the undergraduate level course, **Introduction to Electronics**.
- **Dell Inc, Ottawa, L1 Technical Support Representative, June 2006–August 2006**
 - Resolved technically complex customer support issues independently.
 - Advised and educated customers on procedural guidelines to ensure a complete solution to their technical questions.
- Student member, IEEE (Institute of Electrical and Electronics Engineers)

References available upon request