

RESUME

Name **ANDREI MIHAI HAGIESCU MIRIȘTE**
Address Blk 7 Ghim Moh Rd, #03-265 Singapore 270007
Telephone +65 8118 7981
E-mail hagiescu@comp.nus.edu.sg

Nationality Romanian
Date of birth May 13th 1982

EDUCATION

Aug. 2006 - present **National University of Singapore (NUS)**, Singapore;
PhD candidate in Computer Science (*Improving Floating-Point Arithmetic on FPGAs*)
Supervisor: Assoc. Prof. Wong Weng-Fai
2000-2005 **“Politehnica” University of Bucharest (UPB)**, Romania
Diploma in Computer Science and Electrical Engineering
(5 years major in Computer Science) GPA: 9.22/10
Diploma project: *“Framework for advanced static analysis of C# code”*
Advisors: Prof. N. Tapus (UPB), Assoc. Prof. Chin Wei-Ngan (NUS)

PUBLICATIONS

2007 A. Hagiescu, U. Bordoloi, S. Chakraborty, P. Sampath, P. Ganesan, S. Ramesh. *Performance Analysis of FlexRay-based ECU Networks*, 44th ACM / IEEE Design Automation Conference (**DAC**)
U. Bordoloi, S. Chakraborty, and A. Hagiescu. *Performance Debugging of Heterogeneous Real-Time Systems*, General Motors R&D Workshop on Next Generation Design and Verification Methodologies for Distributed Embedded Control Systems
2005 A. Hagiescu, T. Pircalabu, N. Tapus, *Secure Encryption for Confidential Information*, CSCS – 15
2003 *Eyes Only* project poster at MSR Academic Conference organized by Microsoft Research Europe
2000 C. Lupu, A. Hagiescu. *Moore reserves for orthogonal networks. A case study*, Electrotechnical Conference

AWARDS / RANKINGS / HONORS

2006 Awarded 4 years research scholarship for PhD studies with NUS
2005 Won 2nd prize at *Hard&Soft international contest* at Stefan cel Mare University of Suceava, Romania (team coordinator)
2004 Won 2nd prize at the **IEEE’s 2004 CSIDC** (Computer Society International Design Contest) organized by with project *X!Help* (team member)

Recognized as an honor student at the Faculty of Electrical Engineering and Computer Science in academic year 2003-2004, GPA 9.81/10

Won 1st prize at *Hard&Soft international contest* at Stefan cel Mare University of Suceava, Romania (team member)

Oracle Academic Initiative database certification diploma

Won 3rd prize in the local ImagineCup contest organized by Microsoft (team member)

2003 Won 2nd prize at the **IEEE's 2003 CSIDC** (Computer Society International Design Contest) with the project *EyesOnly* (team member)

RESEARCH INTERESTS

FPGAs in custom-computing applications

Efficient floating-point arithmetic implementations

Embedded systems

Hardware/software co-design

RESEARCH EXPERIENCES

Aug. 2006 – present

Embedded Systems Lab, School of Computing, NUS, Singapore

Research scholar under supervision of Assoc. Prof. Wong Weng-Fai

- Currently investigating FPGA implementations of floating-point libraries for applications requiring heterogeneous arithmetic support. Objective of the research is to propose efficient techniques (i.e. custom multi-operand arithmetic libraries or area-overlapped implementations) that increase computational performance of hardware or co-designed applications. The long term goal is to obtain automatically generated arithmetic hardware support based on system performance requirements.
- Area-Efficient and Latency-Optimal Mapping Onto Multiple Synchronized Clock Domains in FPGAs – associating different synchronized clocks to stages of a streaming application enables a lower granularity and more efficient minimization of the orthogonal goals of area and latency reduction in a hardware implementation
- Improving efficiency of “Model Predictive Control on a chip” – designing Handel-C based custom floating point units targeting FPGAs that improved overall performance of a control application
- Performance analysis of FlexRay-based ECU networks – using a network calculus-based model to analyze latency and throughput of messages over a FlexRay network

March – Aug. 2005	Internship at Programming Languages Lab, School of Computing, NUS, under supervision of Assoc. Prof. Chin Wei-Ngan - design and implementation of a static analysis framework of C# derived programs
Nov. 2003 - June 2004	<i>X!Help</i> project developed with Microsoft Lab in UPB - design and implementation of hardware interfaces and embedded software components
Nov. 2002 - June 2003	<i>EyesOnly</i> project developed with Microsoft Lab in UPB - design and implementation of dedicated embedded hardware and several embedded software components

TEACHING AND WORK EXPERIENCES

Fall 2005	Teaching assistantship of Microprocessor based system design module at UPB (Lecturer N. Tapus)
Fall 2004	Teaching assistantship of Microprocessor based system design module at UPB (Lecturer N. Tapus)
2001-2004	Developing hardware and software for an automotive diagnosis system “Event witness, direct current energy meter, odometer and speedometer for tramways” - a distributed system of embedded devices interconnected using a CAN-like protocol.

THEORETICAL BACKGROUND

Computer architectures, Compilers design, Operating systems design, Theory of Computation, Principles of Programming languages

GRADUATE MODULES

Passed (GPA: 4.9/5)	Performance analysis of embedded systems, Hardware software co-design, Embedded software design, Verification of Real Time Systems, Virtual machines
Currently studying:	Design of Optimizing Compilers, Advanced Processor Architectures

SELECTED COMPUTER SKILLS

Programming languages	C, Java, C++, C#, various assemblers
Hardware description languages / platforms	Handel-C, Verilog / Xilinx

LANGUAGE SKILLS

Romanian	Mother tongue
English	Very good
French	Good

REFERENCES

Wong Weng-Fai	National University of Singapore	wongwf@comp.nus.edu.sg
Nicolae Tapus	“Politehnica” University of Bucharest	ntapus@cs.pub.ro