

# Serge Zhilyaev

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## OBJECTIVE:

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- Hard working and highly motivated individual seeking position related to VLSI design: available in January 2010.

## RELEVANT WORK EXPERIENCE:

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### University of Massachusetts, Amherst, MA

*NSF Funded Research Assistant with Professor Wayne Burlison*

Sept. 07 –

- M.S. thesis on lightweight cryptography
- Interdisciplinary work with computer science team

*Teacher's Assistant for Professor Kevin Fu*

Sept. 07 – Dec. 07

- Prepared laboratory assignments
- Assisted undergraduate students

*Laboratory Assistant for Professor Alok Rastogi*

Jan. 07 – May 07

- Learned about IC fabrication techniques
- Set up equipment with graphical programming

### Intel – Chipset Engineering Group, Chandler, AZ

June 08 – Jan. 09

*Graduate Technical Intern*

- Worked with validation team
- Managed simulations
- Provided scripting support
- Worked with System Verilog on test generation
- Gained valuable engineering team project experience

## EDUCATION:

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### University of Massachusetts, Amherst, MA

**GPA: 3.7/4.0**

Jan. 2010

M.S. Electrical Engineering with Thesis  
Concentration: VLSI and Security

### University of Massachusetts, Amherst, MA

**GPA: 3.28/4.0**

May 2007

B.S. Computer Engineering  
Minor: Mathematics

### Related Graduate Course Work:

VLSI Design Courses, Introduction to Cryptography, Computer Architecture, Computer Arithmetic, Fault Tolerance, Networking, Trustworthy Computing, VLSI Architectures, Security Engineering, Synthesis and Verification

### Master's Thesis:

Title: Evaluating and Optimizing a New Challenge-Response MAC for RFID

The objective of this project is to evaluate a proposed algorithm for its efficiency on embedded microprocessors and as an ASIC design. To decrease area consumption of an ASIC design: changes to the algorithm and to the architecture are proposed. Exploration of efficiency in software is mostly in preliminary stages. This project combines computer design with lightweight cryptography as an implementation of a recently proposed algorithm.

## RELEVANT SKILLS:

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- Experience with Verilog and System Verilog
- Broad understanding of cryptographic primitives and protocols as well as their application to secure systems
- General programming knowledge including JAVA, C, and assembly
- Familiar with a variety of CAD tools
- Perl scripting
- Comfortable with Windows and UNIX operating systems

## CITIZENSHIP:

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- United States Citizen

## LABORATORY AFFILIATION:

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- VLSI Circuits and Systems Group  
<http://python.ecs.umass.edu/~icdg/index.html>
- RFID Consortium for Security and Privacy  
<http://www.rfid-cusp.org/>

## REFERENCES:

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(Graduate Research Supervisor)  
Wayne Burleson  
Professor of Electrical Engineering  
University of Massachusetts Amherst  
(413) 545-2382  
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(RFID CUSP Group Member)  
Kevin Fu  
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