

ALEXANDRA M. BERKOFF (SASHA)

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EDUCATION

- PhD Candidate, Computer Science (Cryptography)** *Sept 2011 - Present*
Brown University, Providence, RI
- M.S. Computer Science — GPA 3.8/4.0** *May 2011*
Brown University, Providence, RI
- Post Baccalaureate in Mathematics — GPA 4.00/4.00** *May 2009*
Smith College, Northampton, MA
- B.A. Computer Science — GPA 3.83/4.00** *May 2006*
Smith College, Northampton, MA

SKILLS

- Course Management Systems:** Blackboard, Moodle
- Programming:** C++, Java, Python, L^AT_EX, Mathematica, C, Assembly, PHP, Visual Basic, Racket, Lisp, HTML/CSS
- Operating Systems:** Windows, Mac OS X, Linux, UNIX

CAREER EXPERIENCE

TEACHING

- Co-Founder/Lead Teacher of “Programming for Android Apps”, Providence After School Alliance** *Spring 2012 - Present*
- Developed 10 week curriculum teaching students basic app development skills using MIT AppInventor
 - Taught 1x/week class for 3-8 high school students from Juanita Sanchez Educational Complex.
- Teaching Assistant, Intro to Cryptography, Brown University** *Fall 2010*
- Created homework assignments and exam questions
 - Graded homework assignments and exams
 - Guest Lectured on Mathematical Cryptography
 - held once-weekly help hours
- Math enrichment teacher, Smith College Campus School** *Spring 2009*
- Led highly gifted sixth grade students through once-weekly math enrichment sessions.
- Math homework help center tutor, Smith College** *Fall 2008 - Spring 2009*
- Provided homework help for students in Calculus I, II, and III, Discrete Mathematics, and Linear Algebra homework.
- SAT Prep Teacher, Kaplan** *Summer 2006*
- Taught 25 person class SAT prep for verbal, math, and writing sections.
- Teaching Assistant, various courses, Smith College** *Fall 2004 - Spring 2006*
- Graded homework assignments
 - Provided homework help
 - Courses: Intro CS, Foundations of CS (Intro Theory), Logic 101, “Roving CS TA” (held hours for all 100-level and 200-level CS classes)

RESEARCH

- PhD Student, Brown University** *Fall 2009 - Present*
- Advised by: Professor Anna Lysyanskaya

- Research focused on lattice-based cryptography, leakage resilience, and fully homomorphic encryption.

Post-Baccalaureate, *Smith College*

Fall 2008 - Spring 2009

- Under the guidance of Professor Jim Henle.
- Computational geometry research on tiling the infinite plane.

National Science Foundation REU Grant, *Cornell University*

Spring 2004

- Under the guidance of Professors Johannes Gehrke and Jayavel Shanmugasundaram.
- Database and systems research related to P2P data management systems.

STRIDE Research Assistant, *Smith College*

Fall 2002 - Spring 2004

- Advised by: Professor Joseph O'Rourke.
- Computational geometry research on foldings and unfoldings of three dimensional polyhedra.

Schultz Research Fellow, *Smith College*

Summer 2003

- Advised by: Professor Joseph O'Rourke.
- Computational geometry research colorings and arrangements of parallelepipeds.
- Developed Mathematica Package for display and coloring of these arrangements.

ENGINEERING

Security Engineer, *Atlan Laboratories*

Summer 2006 - Summer 2008

- Evaluated security products against FIPS 140-2 standard, and prepared conformance reports.
- Performed source code review, functionality testing, and review of technical documentation.

PUBLICATIONS

A. Berkoff, F. Liu “**Leakage Resilient Fully Homomorphic Encryption,**” in submission. 2013.

A. Berkoff, J. Henle, A. McDonough, A. Wesolowski “**Possibilities and Impossibilities in Square-Tiling,**” in *International Journal of Computational Geometry and Applications*. 2011.

AWARDS AND HONORS

Phi Beta Kappa, <i>Smith College</i>	<i>2006</i>
Cum Laude, <i>Smith College</i>	<i>2006</i>
Bert Mendelson Prize for excellence in the Computer Science Major, <i>Smith College</i>	<i>2006</i>
Zollman Scholar, <i>Smith College</i>	<i>2002-2006</i>
STRIDE Scholar, <i>Smith College</i>	<i>2002-2006</i>
REU Grant, <i>National Science Foundation</i>	<i>Summer 2004</i>
Schultz Research Fellow, <i>Smith College</i>	<i>Summer 2003</i>
Presidential Scholar Finalist	<i>2002</i>
National Merit Scholar Finalist	<i>2002</i>

CONFERENCES ATTENDED

Women In Theory, <i>Princeton University</i>	<i>Summer 2012</i>
<ul style="list-style-type: none"> • Presented flash talk on Leakage Resilient Fully Homomorphic Encryption 	
CRA-W Graduate Women's Cohort,	<i>Spring 2012</i>
<ul style="list-style-type: none"> • Presented poster on Leakage Resilient Fully Homomorphic Encryption 	
Theory of Cryptography Conference, <i>Brown University</i>	<i>Fall 2010</i>
<ul style="list-style-type: none"> • Student Volunteer 	

Women in Mathematics In New England, *Smith College*

Fall 2008, Fall 2010

- Student Volunteer

Hudson River Undergraduate Math Conference, *Union College*

Spring 2009

- Presented 20 minute talk on impossibilities and possibilities of tiling the plane with squares.

LEADERSHIP/SERVICE

Department Representative, Brown Graduate Student Council

Fall 2012 - present

Coordinator, Graduate Women in Computer Science (Brown GWiCS)

Fall 2011 - present

Organizer, Brown Computer Science Grad Student Orientation

Fall 2011