

# Kevin Matulef

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## EDUCATION

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- Massachusetts Institute of Technology**, Cambridge, Massachusetts **2003 - Present**  
*Ph.D. Candidate in Applied Mathematics*  
Advisor: Ronitt Rubinfeld.  
Research Interests: Sublinear Time Algorithms, Learning, Complexity.
- Cambridge University**, Cambridge, England **2002 - 2003**  
*Certificate of Advanced Study in Mathematics*  
Essay: "The Hidden Subgroup Problem as a Unifying Concept for Quantum Algorithms."
- Brown University**, Providence, Rhode Island **1998 - 2002**  
*Sc.B. in Mathematics-Computer Science and Mathematical Economics*  
Grade Point Average: 4.0/4.0. Magna Cum Laude.

## AWARDS

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- **National Science Foundation Graduate Fellowship** (2004-2007).
- **MIT Presidential Fellowship** for first year of graduate study (2003-2004).
- **Gates Cambridge Scholarship** for graduate study at Cambridge University, awarded to approximately 40 students in the US and 100 worldwide (2002-2003).
- **Fulbright Scholarship** (declined, 2002-2003).
- **Phi Beta Kappa** (2002).
- **Susan Colver Rosenberger Prize in Computer Science**, given to 6 graduating seniors in computer science (2002).
- **David Howell Premium for Excellence in Mathematics**, given to 3 graduating seniors in mathematics (2002).

## PUBLICATIONS

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- I. Diakonikolas, H. Lee, K. Matulef, R. Servedio, A. Wan. "**Efficiently Testing Sparse GF(2) Polynomials.**" *To appear in the 35th International Colloquium on Automata, Languages and Programming (ICALP), 2008.*
- O'Donnell, R. Servedio, R. Rubinfeld. "**Testing Halfspaces.**" *Electronic Colloquium on Computational Complexity, TR07-128, 2007.*
- I. Diakonikolas, H. Lee, K. Matulef, K. Onak, R. Rubinfeld, R. Servedio, A. Wan. "**Testing for Concise Representations.**" *48<sup>th</sup> Annual Symposium on Foundations of Computer Science (FOCS), 2007.*
- N. Alon, A. Andoni, T. Kaufman, K. Matulef, R. Rubinfeld, N. Xie. "**Testing k-wise and Almost k-wise Independence.**" *39<sup>th</sup> ACM Symposium on Theory of Computing (STOC), 2007.*

## RELATED EXPERIENCE

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- Government Communications Headquarters**, Cheltenham, England **Summer 2002**  
*Research Internship, Student Summer Program (SSP)*  
In cooperation with the US Department of Defense, applied mathematical

methods to cryptologic problems. One of two students chosen from previous summer program (DSP) as a representative of the United States.

**National Security Agency**, Fort Meade, Maryland **Summer 2001**  
*Research Internship, Director's Summer Program (DSP)*

Explored improvements to an algorithm in algebraic geometry using theoretical and empirical techniques. Briefed the director of the agency.

**Microsoft Corporation**, Redmond, Washington **Summer 2000**  
*Software Design Engineer in Test*

Developed tools and tests for the Common Language Runtime, a multi-language programming framework.

**Institute for Advanced Study**, Princeton, New Jersey **Summer 2000**

Undergraduate participant in the Institute for Advanced Study/Park City Mathematics Institute 2000 Summer Session on Computational Complexity.

## TEACHING EXPERIENCE

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### **Massachusetts Institute of Technology**

Theory of Computation, *Teaching Assistant* (Fall 2004 and Fall 2005).

### **Brown University**

Introduction to Cryptography, *Teaching Assistant* (Spring 2002).

Integrated Introduction to Computer Science, *Head Teaching Assistant* (Fall 2000 – Spring 2001), *Teaching Assistant* (Fall 1999 – Spring 2000).

## TALKS

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- Fall 2007, “**Testing For Concise Representations.**” 48th Annual Symposium on Foundations of Computer Science (FOCS), 2007.
- Fall 2006, “**Log<sup>2</sup>(n) Degrees of Separation: An Introduction to the Mathematics of Social Networks.**” MIT Simple Person’s Applied Mathematics Seminar.
- Spring 2006, “**Linear Threshold Functions: Learning and Testing.**” MIT Simple Person’s Applied Mathematics Seminar.
- Spring 2005, “**Learning the Computationally Hard Way.**” MIT Simple Person’s Applied Mathematics Seminar.

## PROFESSIONAL SERVICE

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- Co-organizer of the MIT Theory of Computation Colloquium (2005-2006).
- Co-organizer of the MIT Simple Person’s Applied Mathematics Seminar (2005-2006).
- External Reviewer for 2006 Symposium on Theory of Computing.
- External Reviewer for 2005 Foundations of Computer Science.