

# Kevin D. Bowers

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## Preferred Address

5713 Elwood Street  
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Pittsburgh, PA 15232  
412-596-4120

## Alternate Address

Collaborative Innovation Center  
Carnegie Mellon University  
Pittsburgh, PA 15213  
412-268-6092

## EDUCATION

### Carnegie Mellon University, Pittsburgh, PA

Master's of Science in Computer Science, May 2007

### Rensselaer Polytechnic Institute, Troy, NY

Bachelor's of Science in Computer Science & Computer Engineering, May 2003

Bachelor's of Science in Mathematics, May 2003

Graduated summa cum laude

## SKILLS

Experienced in Windows, Unix/Linux, and Macintosh environments

Proficient in Java, C/C++, HTML, XML, ASP, LaTeX, Matlab, Maple, Microsoft Office, MIPS Assembly

Knowledgeable in PHP, SQL, shell scripts, ant, make, CVS/SVN

## RESEARCH EXPERIENCE

Research Fellow advised by Dr. Michael Reiter and Dr. Lujo Bauer in the Computer Science Department at Carnegie Mellon University. Conducted research in the areas of security, cryptography, mobile applications, access control and privacy from 2005 through 2007. Developed and implemented new techniques for expressing rights and preserving privacy in logic-based access-control systems.

Research Fellow advised by Dr. Seth Goldstein and Dr. Todd Mowry in the Computer Science Department at Carnegie Mellon University. Performed research in the areas of embedded systems, computer architecture, data structures and simulation from 2003 through 2005. Developed a large-scale simulation infrastructure for testing of software on homogenous embedded systems including simulating physical effects due to gravity and magnetism.

Undergraduate Researcher under Dr. William Pearlman in the Electrical, Computer and Systems Engineering Department at Rensselaer Polytechnic Institute during the Spring semester of 2003. Analyzed and improved the efficiency of an algorithm used in the detection of steganographic messages.

Undergraduate Research Fellow under Dr. Kevin Mills at the National Institute of Standards and Technology during the summer of 2002. Designed, ran, and analyzed a simulation of the Jini service discovery protocol; in the process developing two adaptive leasing mechanisms which increase system responsiveness.

## TEACHING EXPERIENCE

Teaching Assistant for 18-730 (Computer Security) at Carnegie Mellon University during the Fall semester, 2006. Wrote and graded weekly quizzes, homework, and exams. Led review sessions and held weekly office hours, answering questions on a number of security and cryptography questions including encryption, digital signatures, hash functions, MACs, and secure protocol design.

Teaching Assistant for 15-213 (Computer Architecture) at Carnegie Mellon University during the Spring semester, 2006. Prepared weekly recitation lectures, designed and graded coding projects and exams and led review sessions. Delivered a guest lecture on network programming.

Undergraduate Teaching Assistant for Computer Science II (C++), Data Structures & Algorithms (C++), and Engineering Graphics & Computer Aided Design (SolidWorks) at Rensselaer Polytechnic Institute.

## WORK EXPERIENCE

Information Management Analyst at Color World Printers - Bozeman, MT: Network administration as well as design and implementation of a web-based submission form for estimate requests. Also updated the customer database and designed and created an internal website to improve employee productivity.

## **SELECTED PUBLICATIONS**

- Kevin D. Bowers, Lujo Bauer, Deepak Garg, Frank Pfenning, and Michael K. Reiter. Consumable credentials in logic-based access-control systems. In Proceedings of the 2007 Network and Distributed Systems Security Symposium, pages 143-157, February 2007.
- Deepak Garg, Lujo Bauer, Kevin D. Bowers, Frank Pfenning, and Michael K. Reiter. A linear logic of authorization and knowledge. In Computer Security - ESORICS 2006: 11th European Symposium on Research in Computer Security, volume 4189 of Lecture Notes in Computer Science, pages 297-312, September 2006.
- Jeremiah J. Harmsen, Kevin D. Bowers, and William A. Pearlman. Fast additive noise steganalysis. In Proceedings of the SPIE International Society for Optical Engineering, volume 5306 - Security, Steganography, and Watermarking of Multimedia Contents VI, pages 489-495, January 2004.
- Kevin Bowers, Kevin Mills, and Scott Rose. Self-adaptive leasing for Jini. In Pervasive Computing and Communications, 2003 (PerCom '03): Proceedings of the First IEEE International Conference on Pervasive Computing and Communications, pages 539-542. March 2003.

## **PRESENTATIONS**

- Consumable Credentials in Logic-Based Access-Control Systems. Network and Distributed Systems Security Symposium, San Diego, CA. February 2007.
- Consumable Credentials in Logic-Based Access Control. Carnegie Mellon University, School of Computer Science Student Seminar Series, Pittsburgh, PA. May 2006.
- Self-Adaptive Leasing for Jini. IEEE International Conference on Pervasive Computing and Communications, Dallas-Fort Worth, TX. March 2003.

## **HONORS**

- Eta Kappa Nu (Electrical & Computer Engineering Honor Society)  
Tau Beta Pi (Engineering Honor Society)  
Praxair Prize - Top 4 Well-Rounded Computer Science Majors  
Electrical, Computer & Systems Engineering Honors Seminar

## **ACTIVITIES**

- President of the Carnegie Mellon University Volleyball Club and club team captain  
Director of the Graduate Student Association Volleyball League  
Corresponding Secretary of the Beta Nu chapter of Eta Kappa Nu

References available upon request