

Adam J. O'Donnell, Ph.D.

Director, Emerging Technologies

Cloudmark, Inc.

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WORK EXPERIENCE

Cloudmark, Inc

San Francisco, CA

Director, Emerging Technologies

May 2007 – Present

Served as Primary Technical Advisor to the CEO on spam, viruses, and novel strategic approaches to combat both

Served as Principal Spokesperson/Technical Media Representative and field expert on messaging security, including interviews in the Wall Street Journal, USA Today, etc.

Owned Cloudmark's Anti-Virus Product: Lead a cross-functional team to define the technical and go-to-market strategy

Initiated Cloudmark's emerging threat intelligence program and developed a series of tools for extracting business intelligence from observed spammer behavior, in turn improving response times to new threats

Initiated Social Networking Security business, resulting in over \$10M in revenue over 3 years.

Senior Research Scientist

Sept 2005 – May 2007

Initiated Competitive Intelligence program

Conceived and implemented multiple spam fingerprinting algorithms for both probabilistic and deterministic pattern extraction from malicious content

Authored several papers on the company's technology for magazines and conferences, including ACM Queue, Virus Bulletin 2006 and CEAS 2006, along with the majority of the company's whitepapers and marketing collateral

Collaborated on multiple Business Development and Marketing efforts, including the development of general corporate strategy and new product lines

Drexel University

Philadelphia, PA

Graduate Researcher, Teaching Assistant

June 2001 – Sept 2005

Graduate Researcher: Studied a variety of topics, including the assignment of diverse software packages on networks of systems (presented at ACM CCS 2004 and PADS 2005) and microeconomic approaches to non-cooperative congestion control problems (presented at IEEE ICC 2002)

Research Assistant on ACIN Project: Researched network planning and optimization

Teaching Assistant: Senior Design, Computer Networks, and Introduction to Programming

Book Authorship: co-authored Hacker's Challenge 2, chapter author for Hacker's Challenge, and technical editor and contributor to Building Open Source Network Security Tools

The Logan Group

Philadelphia, PA

Principal/Consultant

Mar 2003 – Sept 2005

Drove research efforts into developing visualization systems for computer security related data, resulting in SourceFire's RNA visualization engine

Research measures for and countermeasures against content filtering by nation-state actors

Camisade, LLC

Research Scientist

Developed technology transfer programs to migrate research from academia to commercial products
Designed and executed wireless security auditing techniques for our clients

Philadelphia, PA

Sept 2001 – Mar 2002

Guardent, Inc

Research Scientist

Led wireless security research effort
Performed evaluations of 802.11 installations for several large contracts
Authored “Maggie’s Moment”, chapter in Hacker’s Challenge

Waltham, MA

Aug 2000 – June 2001

Knight/Ridder MediaStream

Software Developer

Developed Perl, Java, and ASP code to connect e-commerce site to a backend database of AP and Reuters photographs and graphic content
Performed operation to rescue information from legacy databases

Philadelphia, PA

Sept 1999 – April 2000

Lucent Technologies

Technical Associate

Designed, optimized, and tested high linearity RF amplifiers for PCS band TDMA microcell base station
Applied for and received patent for an amplifier subsystem
Designed PWB artwork and optimized associated printed circuit elements
Resolved various manufacturing issues with volume production of circuit packs
Automated laboratory equipment using LabVIEW, reduced circuit pack test time by a factor of 10

Whippany, NJ

Sept – March, 1997 – 99

EDUCATION

Drexel University

Ph.D. in Electrical Engineering, September 2005

Ph.D. Thesis Title: “Security through Network-wide Diversity Assignment”

Advisor: Dr. Harish Sethu

NSF Graduate Research Fellowship, 2002 to 2005

Philadelphia, PA

MS in Computer Engineering, March 2004

BS in Electrical Engineering, June 2001

PUBLICATIONS

Books and Book Chapters

M. Schiffman, A. J. O'Donnell, B. Pennington, and D. Pollino. Hacker's Challenge 2. McGraw-Hill Osborne Media, 2002.

A. J. O'Donnell. Attack and Penetration Techniques: Buffer Overflow Vulnerabilities. In M. Schiffman, Building Open Source Network Security Tools, pages 260-267. Wiley, 2002.

A. J. O'Donnell. Maggie's Moment. In M. Schiffman, editor, Hacker's Challenge. McGraw-Hill Professional Publishing, 2001.

Refereed Archival Publications

A. J. O'Donnell and H. Sethu. Congestion Control, Differentiated Services, and Efficient Capacity Management Through a Novel Pricing Strategy. *Computer Communications*, pages 1457-1469, August 2003.

Conference/Workshop Papers

A. J. O'Donnell and V. V. Prakash. *Applying Collaborative Anti-Spam to the Anti-Virus Problem*. In *Virus Bulletin*, Montreal, Quebec, Canada, October 2006.

A. J. O'Donnell, W. C. Mankowski, and J. Abrahamson. *Using E-Mail Social Network Analysis for Detecting Unauthorized Accounts*. In Conference on Email and Anti-Spam (CEAS), Mountain View, CA, July 2006.

A. J. O'Donnell and H. Sethu. *Software Diversity as a Defense Against Viral Propagation: Models and Simulations*. In Symposium on Measurement, Modeling, and Simulation of Malware, Monterey, CA, June 2005.

A. J. O'Donnell and H. Sethu. *On Achieving Software Diversity for Improved Network Security using Distributed Coloring Algorithms*. In Proceedings of the 11th ACM conference on Computer and Communications Security, pages 121-131, Washington DC, USA October 2004.

A. J. O'Donnell and H. Sethu. *A Novel, Practical Pricing Strategy for Congestion Control and Differentiated Services*. In Proceedings of the IEEE International Conference on Communications, volume 2, pages 986-990, New York, NY, April-May 2002.

A. J. O'Donnell and H. Sethu. *On the Influence of Phased Growth of the Internet on Power Laws in the Topology*. DIMACS Workshop on Internet and WWW Measurement, Mapping, and Modeling, February 2002.

R. Carr, A. Gregorowicz, A. O'Donnell, and R. Quinn. *Enhancement of Freshman Engineering Laboratory through Remote Web-Based Experiments*. In Proceedings of the ASEE Annual Conference, Seattle, WA, June 2001.

Magazine Articles and Other Publications

A. J. O'Donnell, "Real-World Testing of Email Anti-Virus Solutions", *Virus Bulletin*, March 2007, pp. 10-12

A. J. O'Donnell, "The Evolutionary Microcosm of Stock Spam", *IEEE Security & Privacy*, vol. 5, no. 1, January/February 2007, pp. 70-72

A. J. O'Donnell and V. V. Prakash. "Fighting Spam with Reputation Systems", *ACM Queue* 3(9):36-41, 2005.

A. O'Donnell. *Insecurities in One-Way Paging Systems*. SecurityFocus Online Guest Feature, 2000.

Patents

S. Hamparian, M. G. Kossor, and A. J. O'Donnell. *Phase Shifter Circuit with High Linearity*. Patent #US05990761, November 1999.

Invited Talks

Keynote, MIT Spam Conference, March 27th, 2008

IETF SPEERMINT Interim Meeting, September 18th, 2006

Drexel University Center for Telecommunications and Information Networking Seminar Series, February 25th, 2005

University of Pennsylvania Security Seminar, November 30th, 2004

Drexel University CS Department Seminar Series, October 20th, 2004

SERVICE

Teaching

Teaching Assistant; Programming for Engineers, ECE Dept., Winter 2005

Guest Lecturer at Drexel University on several topics, including “Distributed Denial of Service Attacks, History and Implementation”, “Overlay Networks”, “Security Related Programming Flaws and Attacks”, and “Global Internet Architecture”

Teaching Assistant; Computer Networks, Electrical and Computer Engineering, Fall 2003 to Spring 2004

Teaching Assistant; Senior Design, Electrical and Computer Engineering, Fall 2002 to Spring 2003

Professional Affiliations

IEEE, 1996-present.

ACM, 2001-present.

Manuscript Editing/Reviewing

TPC Member, CEAS 2007, 2008

Reviewer for ICC’02, ICC’05, BroadNets’05, ACSAC’06

Technical editor and proposal reviewer for Addison-Wesley, including T. Howlett’s Open Source Security Tools, 2004

Technical editor; M. Schiffman. Building Open Source Network Security Tools, Wiley 2002

Awards

College of Engineering Dean’s Fellowship, 2002 to 2005

TA Excellence Award, 2004

Koerner Family Fellowship, 2003

Cisco Systems Information Assurance Scholarship, 2003

Department of Defense National Defense Science and Engineering Fellowship, 2002 (declined)

Colehower Fellowship, 2001

Senior Design Unisys Award for Computer Engineering, 2001

Engineering Undergraduate Research Award, 2001

Anthony J. Drexel Scholarship, 1996 to 2001

Allen Rothwarf Outstanding Undergraduate Student Award, 2000

Sigma Xi Engineering Undergraduate Research Award, 1998

1st Place Anderson Consulting Web Challenge, 1997