

K. Reid Wightman

CONTACT INFORMATION 1643 Sixth Ave #307 *Voice:* +1 (315) 395-0160
San Diego, CA 92101 *E-mail:* krwrightm@gmail.com

PROFESSIONAL INTENTIONS Improve security practices in computer systems through software development and security policy analysis, guidance, and implementation

EDUCATION **Syracuse University**, Syracuse, NY, USA
M.S., Computer Science, May 2005
Certificate of Advanced Study in Systems Assurance, May 2005
• NSA (National Security Agency) accredited certification program in computer security
B.S., Computer Science, May 2002
Technische Universitaet Dresden, Dresden, Germany
Theoretical Computer Science Studies, September 2002 - April 2003

HONORS AND AWARDS **Air Force Research Laboratory**
Outstanding Achievement, April 2006
Syracuse University
National Science Foundation award recipient, 2003-2005
Cum Laude, 2002
Outstanding Achievement in Computer Science Award, 2002
Schine Student Service Award, 1999

WORK HISTORY **Space and Naval Warfare Systems Center**, San Diego, California USA
Computer Scientist **July 2006 - March 2007**
My work at SSC has been quite dynamic and demonstrates my areas of expertise and ambition. I developed a driver and userspace tools for a custom USB-controlled PIC to switch tuned antenna arrays automatically based on signal strength, using libusb and the Linux kernel wireless extensions I installed an RHEL (RedHat Enterprise Linux) Satellite Server, and established a configuration and update management methodology for SSCs infrastructure servers (many located off-site), saving the administrators from the burden of distributed management
I architected a security platform for laptops travelling to adversarial nation-states with confidential information, using virtualization and encrypted filesystems. I am currently working to implement the project, which involves influencing the specification of the Linux Unified Key Setup. I have also designed a new virtualization technique and am obtaining a patent for this idea. The end goal is to allow the system to use government issued smartcards for both disk decryption and single sign-on, while providing accelerated I/O on a system without an IOMMU.
I was awarded a research grant from SSC's Business Development Board to perform MLS (Multi-Level Security) research on behalf of the National Security Agency/National Science Foundation. DARPA has expressed interest in the project, as well as input on an existing related initiative. Please inquire for details.

Air Force Research Lab, Rome, New York USA
Associate Computer Scientist **May, 2005 - July 2006**
I served as Multi-Level Operating System expert for both the Air Force and Intelligence (DIA/DISA) communities. I developed policy analysis software for RedHat Enterprise Linux 5 (RHEL5). I evaluated the way ahead for operating system adoption and development for both Intel and AF.

I have also performed red-team analysis on contractor-written software and produced reports and instructions for fixing broken and easily forgeable communication protocols. Evaluated software includes not only the widely deployed Information Support Services Environment (ISSE) Guard, but also the Special Operations Forces (SOF) Guard and Desktop Dissemination Tool (DDT) software.

Syracuse University, Syracuse, New York USA

Research Assistant

June, 2004 - August, 2004

Systems Assurance Institute. I developed a GUI for the SELinux Database Administrator, an NSA-funded research project to provide faster SELinux policy compilation and analysis.

Research Assistant

May, 2003 - August, 2003

Systems Assurance Institute. I maintained unofficial (but publicly available) LibQT packages used in the SELinux project for Debian 3.0 (.deb) and Redhat 9.0 (.rpm).

Research Assistant

September, 2001 - August, 2002

Systems Assurance Institute. Lead a red team, performing vulnerability testing on various computer products. Authored security reports on Sharp Zaurus SL-5x00 personal digital assistant vulnerabilities, and Shoregroup Intrusion Detection System vulnerabilities. Interviewed by Ziff-Davis Media (CNet News) to detail vulnerabilities to the general public. As a result, additional contracts were made with Shoregroup, bringing more research funds to the Institute.

Systems Programmer (Junior Administrator)

April 1999 - September, 2001

Computing & Information Technology. Applied patches to systems. Rewrote Windows build scripts and rolled out system from Windows NT 4.0 to Windows 2000. Deployed complex software installation under Unix (Solaris, Linux) and Windows. Help Desk support to users as issues arose.

VOLUNTEER
HISTORY

Equipment Room Operator

March 2005 - April 2006

Managed equipment inventory for Syracuse University Outing Club

Caving Leader

September 2005 - present

Syracuse University Grotto of the National Speleological Society

Cinemas Coordinator

August 1999 - May 2000

University Union Cinemas. Coordinated the screening of approximately 75 wide release and indie movies to Syracuse University's campus throughout the academic year. Managed a staff of four paid projectionists and one advertiser, and a total budget of over \$100,000. Received the Schine Student Service Award, and for fiscal responsibility and community involvement the Cinemas was awarded additional funding the following year by the Student Government.

Radio DJ

January 1999 - May 2002

University Union Radio (WERW, 1570AM). Hosted several radio shows throughout my undergraduate academic career. Broadcast music, conducted live interviews with local and visiting artists, and read news during a 3 hour block once each week.

CITATIONS

CSA Laboratories vulnerability announcement, primary author (w/ Dr. Steve Chapin and Douglas Calvert), cited in NIST publication *Guidelines on PDA Forensics*.

COMPUTER SKILLS

- Languages: C (4+ years), C++ (2 years), Scheme (3 years), Haskell (2 years), Perl (2 years), Unix shell scripts (2 years), Java (1 year)
- Operating Systems: Proficient administrator of Unix/Linux, Solaris, Trusted Solaris 8, Windows, MacOS
- Protocols: Comfort with packet analysis, stack testing, and firewall vulnerability assessment of TCP/UDP, ICMP, IP, and many application layer protocols

- Other skills: protocol analysis and exploitation, BSD and Linux kernel analysis and development

CLEARANCE

- Clearances: TS (Top Secret), current through 2011

CERTIFICATIONS

- Certificate of Advanced Study in Systems Assurance (NSA)
- Trusted Solaris Administrator (Sun Microsystems)
- SELinux policy analysis, SELinux Reference Policy (Tresys)
- American Red Cross First Aid, CPR, and AED Use

NON-TECHNICAL
HOBBIES AND
INTERESTS

- Rock Climbing, Caving, Mountaineering, Whitewater Kayaking
- Running, Cycling, Swimming, Triathlons