Bryan Douglas Payne

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Objective

I am seeking a dynamic position solving challenging technical problems while working closely with people. The ideal position would leverage my skills in systems security, virtualization, and presenting technical ideas.

Selected Work Experience

Georgia Institute of Technology, GTISC Research Laboratory — Atlanta, Georgia

Research Scientist — *May 2007 – present*

Graduate Research Assistant — *August 2005 – May 2006, August 2006 – May 2007*

- Executing research on the use of virtualization-based architectures to improve system security with an emphasis on techniques such as virtual machine introspection and memory analysis to build realistic security applications
- Publishing and presenting research concepts in top computer security conferences and invited talks
- Co-author and contributor to multiple winning proposals for basic security research submitted by GTISC
- Taught *Introduction to Information Security*, a senior-level undergraduate class that introduces students to security

IBM T.J. Watson Research Center, Secure Systems Department — Hawthorne, New York

Research Intern — *May 2006 – August 2006*

- Developed techniques to reduce mandatory access control policy complexity using virtualization as the foundation of a layered security architecture and began a prototype implementation using Xen, sHype, and SELinux
- Extended sHype implementation in Xen to include policy enforcement on disk and network resources

BAE Systems (formerly ALPHATECH, Inc.) — Arlington, Virginia

Senior Software Engineer — *March 2003 – August 2005*

- Technical lead on a large-scale DARPA research project; responsible for developing research ideas, designing the system architecture, creating and assigning tasks and assisting in technical presentations to the customer
- Senior programmer on a large, agent-based, distributed system designed using C, C++, Python and Java
- Performed research and development in the following areas: distributed systems, protocol analysis, automated network mapping, software reverse engineering, critical infrastructure protection, and anomaly detection
- Designed, priced, procured, and setup multiple 50+ node computer networks for testing research prototypes

National Security Agency — Fort George G. Meade, Maryland

Information Security Researcher — *May 2002 – March 2003*

- Researched the network traceback problem to find practical ideas for determining the source of a network attack
- Mentored junior researchers through guidance on the research process and taught systems security principles

Global Network Exploitation Analyst — *June 2000 – May 2002*

- Led field evaluations of government networks and recommended counter measures to secure the weaknesses
- Evaluated operating system, application and protocol security through code review and reverse engineering
- System administrator for a top secret Windows network; designed, configured, deployed, and maintained systems

Open Source Software Contributions

- **XenAccess**: Founded project in April 2005; A robust monitoring framework for Xen including complete memory, disk, and event monitoring from an isolated virtual machine; project web page at http://www.xenaccess.org
- **Open1x**: Co-founded project in February 2002; An open source version of the 802.1x supplicant protocol for Linux as a component of an open source wireless security test bed; project web page at http://www.open1x.org
- **Xen**: Contributed over 800 source lines of code to Xen, including libxc python patches and Linux kernel patches to enable mandatory access control (MAC) policy enforcement for disk and network resources

Education

Ph.D. in Computer Science (in progress) — Atlanta, Georgia

Concentration: Systems Security — Expected May 2010

Georgia Institute of Technology; College of Computing — GPA 4.0 / 4.0

M.S. in Computer Science — College Park, Maryland

Concentration: Wireless Network Security — Graduated May 2003

University of Maryland; College of Computer, Mathematical and Physical Sciences — GPA 3.70 / 4.0

B.S. in Applied Science — St. Louis, Missouri

Majors: Computer Science and Mathematics — Graduated May 2000

Washington University; School of Engineering and Applied Science — GPA 3.37 / 4.0

Activities and Honors

President's Fellowship, Georgia Institute of Technology
Graduate Student Council, Georgia Inst of Technology
Mortar Board National College Senior Honor Society
Upsilon Pi Epsilon, Georgia Institute of Technology
Dean of Engineering Honorary Scholarship, Washington U
Elvera Stuckenberg Memorial Award, Washington U