

EXPERIENCE: Security Innovation, Inc., Seattle, WA

Computer Security Engineer, (January 2006 - October 2008): Led threat modeling Center of Excellence and performed consulting work in a variety of security-related roles. While at Security Innovation:

- Analyzed architectural and implementation security of multi-tier applications.
- Managed other engineers on a per-project basis.
- Audited code, designed mitigations, reviewed designs, and created threat models.
- Worked with clients to design and revise architectures and mitigate threats within constraints of budget and schedule.
- Continued research and defined offerings and positioning for threat modeling.
- Trained other engineers in threat modeling.
- Advised on the creation of a professional development program
- Recruited and interviewed technical personnel and advised on staffing.
- Assisted on sales engineering restructuring and advised on offerings and positioning.

Public Nerd Area, Seattle, WA

Co-founder, (April 2005 - Present): Created and helped run a collective work shop and research facility specializing in robotics, electronics, and security work. Co-hosted a weekly event. Taught others to use machine tools; managed issues of resource contention, funding, and group dynamics. Provided technical assistance on community projects.

IOActive, Inc., Seattle, WA

Computer Security Analyst, (September 2003 - January 2006): Performed consulting work auditing the security of large multi-tier applications at architectural and implementation levels through code auditing, threat modeling, and design reviews. At IOActive:

- Designed solutions to security problems within business constraints.
- Managed teams and simultaneous projects with heavy client interaction.
- Performed sales engineering, scheduling and project management work.
- Wrote and delivered presentations to external and internal audiences.
- Performed research in threat modeling to further formal understanding of the security of complex systems. Used the research to guide development workflows.
- Designed and developed tools to support knowledge capture and data analysis.
- Received a SANS GIAC Security Certificate (July 2005)

Optimal Engineering Solutions, Inc., Cleveland, OH

Programmer, (September 2001 - January 2002): Wrote and optimized a distributed automation system with interfaces to existing APIs. Built a parallel computation cluster. Automated administrative tasks across the cluster and other machines.

GIE Media, Inc., Cleveland, OH

Consultant, (October 2000 - February 2001): Analyzed and redesigned GIE's network and servers to modernize infrastructure and improve workflow with a limited budget. Documented the network and implemented network security systems.

S/390 Porting Feasibility & Development, IBM Poughkeepsie, Pleasanton, CA

Programmer, (June 2000 - August 2000): Worked on-site at PeopleSoft, Inc., programming, debugging, and performance tuning on OS/390 and Linux for an ERP product, including work with cross-platform Unicode issues, build automation, and Oracle integration.

MyOwnEmpire.com, Inc., San Jose, CA

Network Administrator, (May 1999 - January 2000): Installed, configured, maintained, and tuned all servers for an Internet start-up, including fault tolerance, failover, and scalability for DNS, web, JVM, and databases. Implemented data backup, mail services, NTP, CVS, and automated build servers. Automated administrative tasks.

RESEARCH:

Autonomous Panoramic High-Altitude Photography, Hackerbot Labs (2007)

An autonomous high-altitude balloon equipped with redundant communications and positioning systems and multiple synchronized cameras for near-space panoramic photography.

The Trike Threat Modeling Methodology, Independent (2003-Present)

A unified conceptual framework for security auditing from a risk management perspective in a reliable, repeatable manner. Intended for use by security auditing teams to describe the security characteristics of a system from architecture to implementation and to enable communication among members and between teams and other stakeholders. Distinguished from other methodologies by the high levels of automation, a defensive perspective, and a high degree of formalism.

GYRE: Reduced Gravity Robotics, The University of Washington (2002-2003)

An autonomous free-floating robot capable of orienting itself using visual servoing and cold gas thrust and performing station-keeping and navigating in a microgravity environment, based on commercial off-the-shelf hardware, and tested on NASA Johnson Space Center's KC-135 Reduced Gravity Test Platform.

SKILLS:

Computational: Threat modeling, application security testing, object oriented design and analysis, user interface design, Unix systems programming, database design and normalization, protocol design..

Soft Skills: Problem solving, team management, public speaking, client interaction, technical writing, sales engineering, project management, process and workflow design.

Languages: Python, C++, C, C#, Unix Shell, Lisp, Smalltalk, SQL, XML, HTML, CSS.

Applications: Checkmarx, Visual Studio, emacs, Visio, Office, Lyx.

EDUCATION:

Case Western Reserve University, Cleveland, OH (1997-2002)

Coursework towards a Bachelor of Science in Computer Science with a minor in Artificial Intelligence.

- Design theory seminar (grad.)
- User interface design (grad.)
- Software engineering (grad.)
- Artificial intelligence
- Numeric methods
- Architecture and city design (year long)
- Systems analysis and organization design (grad.)
- Complex systems modeling and analysis (grad.)
- Object oriented software development (grad.)
- Database systems

Robert E. Noyce Foundation Valley Scholar (1996)

INTERESTS:

- Security and risk analysis
- Traffic analysis and cryptography
- Mobile device interactions
- Physical interface design
- Computer-mediated communication
- Data visualization
- Experience design
- Ubiquitous computing