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SKILLS

Programming Languages:

- C, C++
- C#, Java
- Perl, Python, Ruby
- FORTRAN77, Fortran95
- Scheme, Common LISP
- PROLOG

Graduate studies in:

- Algorithmic analysis and design; human-computer interaction; computer security; LT-, CT- and first-order logics; stochastic approximation heuristics; game theory; software engineering; object-oriented analysis and design; more.

EDUCATION

Undergraduate:

The University of Houston *1993–1994*
Studies pursuant to a Bachelor of Science in Electrical Engineering

Cornell College *1994–1998*
Bachelor of Arts in Computer Science

Graduate:

The University of Iowa *2004–2006*
Master of Computer Science

- Focus in computer security and software engineering

The University of Iowa *2006–present*
Studies pursuant to a Doctor of Computer Science

- Developing formal axioms for input validation
- Developed provable security against SQL and XML injection attacks

EXPERIENCE

The National Science Foundation *2006–present*
Research Assistant

- Member of the Systems Engineering team of ACCURATE (<http://www.accurate-voting.org>)
- Research and development into secure electronic voting systems, covering technical, social, administrative, legislative and litigative angles
- Presented original research at DEF CON 14

The Henry B. Tippie School of Business *2005–present*
Hacker

- Worked with operations researchers to implement new heuristic approximation algorithms
- Developed computationally intensive applications in heavily optimized C++
- Presented original research at CODECON 2006, OSCON 2006

The University of Iowa *2004–present*
Instructor and Teaching Assistant

- Taught Computer Literacy; teaching assistant for Introduction to Computer Science, Computer Science I, Computer Science II; taught extracurriculars in Python, advanced C++ programming, software engineering principles
- Guest lecturer in computer security

Simmons, Perrine, Albright & Ellwood, PLC 2002–2003

System Administrator

- Chief administrator for a law firm spanning two locations and over 100 employees
- Maintained a highly diverse network of heterogenous clients with high reliability on an extremely low budget
- Fielded support tickets from users, trained employees, and other face-to-face tasks

Self-Employed 2001–2002

Information Security Consultant

- Vulnerability assessments, incident planning and security education for various groups in the Midwest
- Experienced public speaker on technology topics

PGP Security, Inc. 2000–2001

Senior Cryptographic Engineer

- Introduced PKCS-11 support to PGP
- Ported parts of the PGP 7.0 UI to UNIX

Yomu, Inc. 2000

Senior Security Engineer

- Designed new DRM technologies for a San Francisco ebook publishing startup
- Identified exploitable vulnerabilities in the DRM offerings of competitors
- Last engineer to be let go when the dot-com bubble burst

PRESENTATIONS

Swarmfest 2004

- Presented “Game-Theoretic Models of Language Acquisition” at Swarmfest 2004

Black Hat 2005

- Presented “Guns and Butter: Formal Axioms of Input Validation” at Black Hat 2005

CodeCon 2006

- Presented “Djinni: Approximating NP-Complete Problems, Fast” at CodeCon 2006

O’Reilly Open Source Convention 2006

- Invited to present the *Djinni* paper again in another venue at OSCON 2006

USENIX/EVT 2006

- Part of the research group that presented results on cheap fabrication of provably one-way data cables

DEF CON 2006

- Presented “Trust, But Verify: Auditing Proprietary DRE” at DEF CON 14