

James J. Yuill, Ph.D.

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Summary: Seeking a senior-level computer security position. Experience includes computer systems R&D for over 20 years, with 8 years in computer-security research, 7 years in operating-systems development, and 6 years of university teaching. Ph.D. in computer security.

Computer Security Research

1998 – present: Primary researcher for university and Department of Defense (DoD) research projects, as summarized below:

12/00 – present: Research in deception for computer security:

- Initiated project, and served as principal investigator (PI) and co-PI; formed research team with three distinguished university and CIA researchers; we obtained funding from the Office of the Secretary of Defense (OSD) and the DoD's Joint Task Force for Global Network Operations (JTF-GNO).
- Several papers and a book are published or pending publication; gave presentations at IEEE, ACM, and DoD conferences, and to senior officials at OSD and the JTF-GNO; the publications have been well-received in the DoD and used in a NATO computer-security course.
- My publications are at: <http://www4.ncsu.edu/~jjyuill/Professional/Resume/papers.pdf>
- Invented two deception-based computer-security devices, and built prototypes.

12/06: Completed Ph.D. in computer science, at North Carolina State University (NCSSU)

- My Ph.D. thesis is a subset of my deception research.

2/99 – 12/02: Research in incident-response investigation processes:

- Primary researcher for DARPA-funded project; applied DoD's battlefield-intelligence process to incident-response; made novel discoveries in data management for investigation, and developed a prototype system.
- Initiated collaboration with experts from the FBI, US Marine Corps, and industry; primary author of journal paper; gave presentations at conferences for academia (RAID, at Purdue University), industry (FIRST, in France), and black-hat hackers (Rubicon, in Detroit); also presented at OSD, a JTF-GNO committee of generals, and the DoD Computer Forensics Lab (DCFL); the research received very favorable reviews from the DoD, academia, and law enforcement.

2/98 – 10/98: Research in network risk-assessment:

- Primary researcher on a project for the National Security Agency. Investigated the use of engineering reliability-theory for network risk-assessment. The research results were very well received by the sponsor.

8/98 – 2/99: Network penetration-testing:

- Initiated the project, obtained the client (an electronics corporation), and recruited a co-worker.
- We extensively penetrated the client's network and presented the results to senior management; we wrote a buffer-overflow exploit for IMAP.

1999 – present: Computer-science research methods:

- Investigate systemic causes of ineffective research results in academic computer science; developed publishable results based on the philosophy of science; presented research to a deputy undersecretary at OSD; this research is an on-going side-project.

INDUSTRY EXPERIENCE

12/84 - 4/93: IBM; Poughkeepsie, NY; operating system development; designed and coded new versions of IBM's MVS operating system.

- *MVS:* IBM's principal mainframe operating system. Developed programs which embody: parallelism, security, error recovery, reentrancy, performance constraints, downward compatibility, high-level and assembly-level languages, documentation in IBM manuals.
- *Design and code:* Evaluated and approved interdivision requests for Job Control Language (JCL) enhancements. Developed JCL-related enhancements. Each enhancement was up to 5,000 LOC (lines of code), and was incorporated within a system consisting of millions of LOC.
- *Development process:* Used IBM's formally-defined software development process. Wrote specifications, designs and code. Performed unit test. Provided technical oversight for maintenance programmers, testers and technical writers. Reviewed other programmers' work.
- *Programming methods:* Through self-study initiative, championed a department project introducing JSP, a software engineering design method. Researched programming methods, CASE and technology transfer. Hired software engineering consultants. Also, introduced quality assurance methods to my department.
- *Administration:* Implemented department-wide compliance with legally-imposed documentation requirements. Helped implement ISO 9000.
- *Awards:* Two \$1,500 awards, two \$100 awards.

TEACHING

1995-2005: instructor at North Carolina State University (NCSU), part-time:

Courses taught:

- Computer Networking, for MBA students: designed curriculum and networking lab; five semesters.
- Assembly Language: four semesters; Advanced Data Structures: one semester; Databases: one semester.
- Independent Research: recruited and supervised students for projects related to my research; six semesters.

Guest lectures:

- Network Security (M.S. level); lectured and developed a class project; five semesters.
- Cluster Computing (Ph.D. level); lectured and developed a class project; two semesters.
- Software Engineering (B.S. and M.S. level): three semesters.

Other:

- Graduate teaching-assistant: four semesters.
- Interviewed on local TV news, regarding a high-profile computer-security attack; March 2000.

1998-present: volunteer instructor at an inner-city children's home:

- Vocational-education instructor at Agape Corner Boarding School (ACBS), an inner-city children's home; part-time volunteer; started the home's vocational-education program; recruited other volunteer teachers; we built and equipped several workshops.

EDUCATION

Ph.D. Computer Science: NCSU; 2006; thesis on computer security, entitled "Defensive Computer-Security Deception Operations: Processes, Principles and Techniques"; passed written Ph.D. qualifying exam; 18 graduate classes completed; GPA 3.7.

Masters of Computer Science: NCSU; 1996; GPA 3.8

B.S. Computer Science: North Dakota State University; 1984; GPA: overall 3.4, major 3.7