

# Christopher L. Simpkins

## Computer Scientist, Software Engineer

### Education

In Progress: **Ph.D.**, College of Computing, **Georgia** Institute of **Technology**. Specializing in Intelligent Systems under Charles Isbell. Started August 2005.

**M.S. in Computer Science, Southern Polytechnic State University, 2004.** GPA: 3.92/4.0.

**B.S., United States Air Force Academy, 1990.**

### Work Experience

**Research Scientist:** Georgia Tech Research Institute, Atlanta, GA, November 2001 to present  
As a computer scientist in Signature Technology Lab, conduct computing research and development and provide software engineering leadership. Effected radical positive change in the organization by restructuring software teams, creating common code libraries, redesigning existing software systems, and unifying development processes. These changes improved software quality and delivery schedules, reduced costs, and allowed us to create a team of student cooperative Computer Science majors to act as junior software engineers.

- Investigated use of genetically and MIMIC designed neural networks for the identification of RF emitter signals using WEKA and hand-coded algorithms in Lisp and Java.
- **Principal investigator** on internal research in machine learning/optimization algorithms for antenna design (using Lisp).
- **Chief architect and lead software engineer** for team of three software engineers developing a scientific data management and visualization application using Java, Swing and XML.
- **Principal investigator** on project developing standardized XML formats and translators (hand-coded and XSLT) for scientific data.
- **Chief architect and lead software engineer** for team of 12 software engineers developing applications using Solaris, Linux, Oracle 9i, Java Swing, Tomcat 4, Servlets, JSP, and Struts framework.
- Senior software engineer on digital library web application using distributed, multi-tier Java technology and high-security software designs.
- Creator, leader, and mentor of group of cooperative Computer Science majors who serve as junior software developers in our group.

**Software Engineer:** Internet Security Systems, Atlanta, GA, August 2000 to November 2001  
Key player in two software projects using Java enterprise technologies such as servlets, RMI, and JDBC. Each project employed eXtreme Programming methodology and multi-tier architectures.

- Hand picked to be one of three core engineers on company's most important forward-looking project, which grew to two teams of ten engineers each. As one of two **lead software engineers** on UI/application server team, developed major portions of the design, set coding standards, established build procedures, and mentored other developers.
- On previous project - my first in the company - quickly earned a reputation for excellent programming and design skills. Received formal award from lead engineer for my decisive contributions to the usability and GUI design of the product. Chosen from among the 12 engineers on the team for important core position on new development team.

**Software Engineer, Network Administrator, IT Manager:** USAF, Columbus Air Force Base, MS, May 1998 to August 2000

As a software engineer, performed requirements analysis, design, evaluated technology options, and implemented two enterprise systems. Convinced commanders to devote critical resources to implement my solutions, which became overwhelming successes.

- Designed and built mission critical flight management system which is heart of flight operations for two busy squadrons flying up to 200 flights per day. System consists of four front-end applications written with Borland C++ Builder using VCL components, a back-end Interbase RDBMS server, and application logic written in ANSI C++ using the Standard Template Library. Tremendous personal initiative revolutionized flight operations, saving over 8000 person-hours per year and improving operational command and control by 100%.
- Designed, built, and administered dynamic intranet web site using PHP and HTML which serves as information hub used daily by 300 users.

As network/security administrator and IT manager, trained and led a team of three network and security administrators. We built, maintained, and supported a 100 node, 300 user LAN with two RAID-backed servers connected to a 1000 node base-wide LAN.

**T-37 Instructor Pilot:** USAF, Columbus AFB, MS, July 1997 to June 2000

Turned new Air Force officers into military jet pilots in USAF Primary Jet Pilot Training. Taught fundamentals, aerobatics, instrument flight in poor weather, and formation flying. Flew daily missions with young students in a dynamic, high stress flying environment regularly making critical real-time decisions and using expert judgement to achieve the best training and flight safety.

**KC-135 Pilot:** USAF, McConnell AFB, Wichita, KS, August 1995 - March 1997

Working closely with a highly skilled crew, executed hundreds of successful air refuelling missions in worldwide military operations. Received outstanding crew award while deployed in support of operation Southern Watch in Saudi Arabia. One of only two co-pilots in squadron selected for highly coveted special operations qualification.

**US Undergraduate Space Training (UST) Instructor and Software Engineer:** Lowry AFB, Denver, CO and Vandenberg AFB, Lompoc, CA, June 1992 - March 1995

Taught mechanics to students preparing for assignments as space operations officers. Every class I taught cited me as their best instructor. Achieved highest pass rate in all of UST while teaching its most difficult course. Developed in-house software in C for office and training applications.

### **Other Relevant Education and Training**

**USAF Instructor School, 1992** Student lectures are videotaped for review and critique, then discarded. One of my lectures was kept as an example for future students to follow.

**USAF Squadron Officer School, 1994.** Received written commendation for my presentation skills; cited for excellent performance in Leadership Reaction Course.

### **Professional Affiliations**

Association for Computing Machinery (ACM)  
ACM Special Interest Group in Artificial Intelligence (SIGART)  
ACM Special Interest Group in Information Retrieval (SIGIR)