Paul Redkoles

Senior Real-Time Software Engineer

Mullica Hill, NJ - Email me on Indeed: indeed.com/r/Paul-Redkoles/c8863a2b0979d37c

Senior real-time software engineer using skills and experience developed over six years of education and fifteen years of industry experience.
Authorized to work in the US for any employer

WORK EXPERIENCE

Real-time Senior Software Engineer

The Boeing Company - Philadelphia, PA - January 2001 to Present

Primary job function has been working as a lead real-time software engineer in the Flight Simulation Laboratory at the Boeing Rotorcraft facility. During my fifteen years in the aerospace industry I've worked in such diverse areas as virtual reality, real-time distributed simulation computing using Linux, digital flight control systems, tactical simulations, math modeling, aural cueing, avionics testing, glass cockpit displays, and helmet-mounted displays incorporating synthetic vision, symbology overlay, and head-tracking. All work was done on major DoD programs including the heavy-lift CH-47 Chinook helicopter, the V-22 tilt-rotor, Future Combat Systems (FCS), Network-Centric Operations (NCO), and the RAH-66 Comanche and Apache Army helicopter programs. I've also presented and had several papers published in the American Helicopter Society's annual forums, and was invited to have one of these papers published in the new Journal of Aerospace Computing, Information, and Communication (JACIC), published by the American Institute of Aeronautics and Astronautics (AIAA). I'm also listed as a co-inventor on a patented aircraft heading prediction algorithm for rotorcrafts. I also have a Secret US Security Clearance. I was awarded Employee of the Month for March 2005 for sustaining performance, initiative and creativity from a project that dealt with proposing and implementing a lost-cost, real-time, off-the-shelf distributed simulation computing environment. This environment used a PC/Linux Cluster for a Network-Centric Ops simulation and live-fly using various tactical network protocols such as UDP, TCP, Link-16 and XML for different aircraft variants. Other projects roles included architecture and implementation focal working with avionics suppliers Rockwell-Collins and Honeywell on cockpit display development for various and sundry Chinook Heavy-Lift Rotorcraft Programs.

Provides innovative and creative new concepts and leadership. Leads analyses of customer requirements and development and integration of application computing architectures, systems and interfaces. Exercise all facets of the software engineering life-cycle by designing, coding, testing, documenting, and installing software routines, modules, and programs of a complex nature that are my work, or of 3rd party nature. Identifies and assigns tasks to project team members. Draws up estimates and schedules. Improves software engineering standards, processes, and techniques through SEI-CMM/CMMI/Agile/Lean practices. Leads technical reviews of feasibility studies and conducts design, documentation, implementation, and validation reviews. Communicates with department management and functional users on project requirements, activities, and status. Works with major Program suppliers on critical path risk reduction efforts. I also have an active Secret US Government Security Clearance.

Graduate Teaching Assistant in Computer Science

Clemson University - Clemson, SC - August 1998 to December 2000

Graduate Teaching Assistant in Computer Science. Promoted to University Instructor from August 1999 – Dec 2000 after being evaluated one of the top two TA’s. Responsible for holding structured, introductory computer

science courses. Taught C in the Unix environment for three semesters. Also instructed in web development(HTML/JavaScript), email, ftp, MS-Office, and various other microcomputer applications for two semesters.

Web Programmer and Information Systems Consultant

Comcast-Spectacor - Philadelphia, PA - May 1997 to December 2000

Web Programmer supporting all major web sites of Comcast-Spectacor which include: Philadelphia Flyers, Sixers, Phantoms, Comcast SportsNet, Wings, Kixx, First Union Center, First Union Spectrum, and Flyer affiliated SkateZones. IT support for Comcast-Spectacor involving system and network hardware/software installation, support, troubleshooting, and upgrading, with on-site support to 300+ users over all branches of the company. One of my final assignments was supporting the Republican National Convention in 2000.

EDUCATION

Master of Science in Computer Science

Clemson University - Clemson, SC
1998 to 2000

Bachelor of Science in Information and Computer Sciences

Stockton University - Township of Galloway, NJ
1994 to 1998

AWARDS

AHS Award of Year

June 2008

AIAA Award of Year

May 2009

PATENTS

Heading reference command and control algorithm and cueing systems and methods for aircraft turn-to-target maneuvers (#US7437223 B2)

https://www.google.com.ar/patents/US7437223
August 2005
Systems and methods are provided for determining a final heading of a turning vehicle, such as a rotorcraft. The system may include an algorithm that calculates an advance prediction of a final heading that will be achieved after control input is terminated. The system may also include a device, such as a display, for conveying predicted final heading information to an aircraft controller, such as a pilot.

PUBLICATIONS

Distributed Flight Simulation Architecture using a PC/Linux Cluster

https://vtol.org/store/product/distributed-flight-simulation-architecture-using-a-pclinux-cluster-7443.cfm
May 15, 2003

A Re-Configurable Portable Simulator to Support Rotorcraft Tactical Mission Rehearsal and Advanced Concepts Prototyping

https://vtol.org/store/product/a-reconfigurable-portable-simulator-to-support-rotorcraft-tactical-mission-rehearsal-and-advanced-concepts-prototyping-3480.cfm
May 7, 2007

Multi-Fidelity Architecture for Rotorcraft Cockpit Simulation Training Devices

https://vtol.org/store/product/multifidelity-architecture-for-rotorcraft-cockpit-simulation-training-devices-2086.cfm
May 7, 2002

Helicopter Active Control Technology Handling Qualities Simulator Development

https://vtol.org/store/product/helicopter-active-control-technology-handling-qualities-simulator-development-7431.cfm
May 7, 2002

ADDITIONAL INFORMATION

SKILLS

•Fifteen years of DoD Aerospace industry experience. Effective project leader, and ability to work under minimal to no supervision against heavy time constraints. Repeatedly solving especially difficult problems and/or changing processes/procedures to improve product quality. Working with major Program suppliers on critical path risk reduction efforts.

•Master's thesis dealt with correctness preserving transformations in the context of formal methods for optimization verification during software maintenance.

•Programming Languages - Ada and Ada95, ASP, Assembly Language, BASIC(all versions and visual), C and C++(with Visual C++), C#, .NET, CGI and scripting (with awk, Korn Shell, Perl, and C), CORBA, DirectX, FORTRAN 77, HTML, XML, ISETL, Java JavaBeans RMI and JavaScript(with Java Applets), LISP, Perl, Prolog, Smalltalk, tcl/tk, MATLAB.

•APIs - STL, Boost, OpenGL, OpenAL, SDL, DirectX, PLIB, VAPS, OpenSG, PCap.

•Modeling Languages - UML(Rational Rose), RAPIDE, ACME, other ADLs.

•Compilers - GNU gcc/g++, gnat, g77. IRIX cc, CC, f77. Windows Visual Suite (C/C++), Dev-C++, Object Ada95/Meridian Ada83/GPS, javac.

•Operating Systems - Unix(Solaris & SGI IRIX), Linux(Fedora Core, Red Hat, PS2, Android), DOS(MS, PC), Windows […] VMS, VxWorks (real-time), iOS.

•Computer Hardware - Sun(Sparc Ultra), SGI, Intel, PlayStation2, VAX, PowerPC, PIC, ESIG-3000, Quantum 3D, SCRAMNet, Ethernet, Display Systems.

•TCP/IP and UDP/IP Socket Programming.

•Touchscreen technologies.

•Excellent leadership, writing, organizational, presentation, and communication skills.

Relevant Coursework:

Software Architecture (Patterns, QoS Attributes, Risk Analyses)
Software Specification and Design
Software Verification and Validation
Design and Analysis of Algorithms
Distributed Operating Systems
Computer Networks & Data Communications
Computational Science, Statistics
Natural and Applied Sciences (Physics, Calculus, Chemistry)

Clemson University, 2000 – 3.60 GPA
Richard Stockton College of NJ, 1998, Dean's List – 3.82 GPA
Penns Grove High School 1994 Valedictorian

ACTIVITIES

Family, Musician, fitness and nutrition, golf, home projects, astronomy, meteorology, flight simulation, computer graphics, and traveling.

REFERENCES

Available upon request.