

Douglas M. Reitz
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Summary

Lead software systems engineer and architect with demonstrated experience defining, planning, tracking, leading, and developing real-time, embedded, and data software systems and R&D projects.

Interests include aerospace, software architecture, simulation, Linux / Unix, real-time embedded software, databases, intelligent systems, high performance computing, and computational physics. The bigger and more challenging the problem, the better it is.

Specialties

Flight simulation, Linux, Unix, C/C++, PostgreSQL, real-time software, research and development, architecture, technical project leadership/management, support vector machines, and technical solution proposals.

Education

Binghamton University, State University of New York - MS Computer Science
Penn State University, University Park, PA - BS Science

Professional Experience

Rockwell Collins STS – Sterling, VA (Feb 2005 - Present)

Senior Software Engineer

Hands on leader of IR&D software projects and programs including planning, budgeting, tracking performance, and reporting earned value results. Experienced opportunity leading engineering team in development of new scalable software architecture including multi-threaded, multi-computer, real-time software framework. Development included avionics interfaces (ARINC-429 / ARINC-708), embedded discrete / analog I/O, operating system abstraction, database (RDBMS), networking, and real-time processing services.

- Lead software project engineer role for **CORE™ simulation architecture** design, and development
- Lead technical role for IR&D military simulation architecture initiative
- Proposed, estimated, and technically lead development projects
- Managed project / program budgets and earned-value performance
- Supported and lead technical proposal efforts for flight simulation training devices and upgrades
- Performed post-delivery software troubleshooting, analysis, and corrective modification support

Northwest Airlines, Inc. – Eagan, MN (Apr 1998 - Oct 2002 / Nov 2003 - Feb 2005)

Specialist Software Systems Engineer – Simulator Engineering 11/03-02/05

Senior Software Systems Engineer – Simulator Engineering 6/99-10/02

Software Systems Engineer – Simulator Engineering 4/98-6/99

- Provided solutions for software related aircraft and simulator systems discrepancies on flight training devices and full flight simulators from various manufacturers: **Opinicus**, **CAE**, Link, Atkins & Merrill, **Thales**, Thomson-CSF
- Developed and integrated software to simulate aircraft modifications in simulators using various programming languages, development computers, and operating systems. Simulated aircraft: **DC-9**, **DC-10**, **A320**, **A330**, **B727**, **B747**, **B757**. Operating systems: Linux, MPX, AIX, DOS, UNIX, Windows. Software languages: C, C++, Fortran, Assembly, Pascal, GP-4. Computer systems: PC, **IBM RISC 6000**, **Gould/Encore Multi Sel**, **VAX**, **PDP 11-45**, GP-4, Sun.
- Responsible for evaluating results of recurrent simulator tests required to maintain FAA qualification

- Developed software for avionic updates on simulators
- Enhanced/maintained navigational database update system
- Developed/updated host computer visual system interface software
- Designed/developed systems & solutions to aid maintenance personnel and provided engineering support to troubleshooting efforts

J. F. Taylor, Inc. – Lexington Park, MD (Oct 2002 - Nov 2003)

Software Engineer

- Worked at customer site, Navy - NAVAIR Manned Flight Simulator
- Designed and developed aircraft (CH-47F) cockpit lighting object-oriented software model to simulate cockpit lighting in new prototype simulator. Cockpit lighting Computer Software Configuration Item (CSCI) designed and developed utilizing formal software design processes and procedures including development of the following documents: Segment Design, Software Requirements Specification (SRS), Software Design Document (SDD), and Interface Design Document (IDD)
- Developed Instructor Operator Station (IOS) software to display flight plan waypoint information and interface with an Avionics model monitoring 1553 data
- Developed Trainer Test Procedures and Results Report (TTPRR) sections as part of test IPT for use during acceptance testing of simulator to verify all systems function correctly and meet applicable requirements. Played significant role in developing the following test sections: Flight Instruments - EHSDI, EADI, CGI, Standby Instruments, etc; Data Loader Unit (DLU); Heads Up Display (HUD); Mission Multifunction Display (MFD) Multifunction Control Unit (MFCU), Digital Map System (DMS); Radar Signal Detecting Set - AN/APR-39A; Counter Measures – AN/ALQ-156 and Flare Dispenser M-130; Control Loading; and Visual System – IG, Displays, Night Vision Goggles (NVG)

Flight Safety International, Inc. – St. Louis, MO (Dec 1996 - Apr 1998)

Part-time Simulator Technician

- Maintained flight simulators from various manufacturers (CAE, Flight Safety, Atkins & Merrill, Link)
- Updated and corrected simulator software: FORTRAN, C, PDP assembly, and SP1 image modeling systems
- Operated and repaired host and display computers: VAX 11/780, PDP 11/45, PDP 11/55, GP-4, Concurrent 3250XP, TI 980, Sperry-Univac 76/77
- Maintained image generation systems E&S - SP1, Novoview 6000, McDonnell Douglas - Vital IV

LTC Solutions – St. Louis, MO (Feb 1996 - Apr 1998)

Programmer / Analyst

- Member of development team for a large medical records database application written in FoxPro
- Completed development of program to convert data into new software package
- Responsible for software releases and builds

Publications

[1] Land, W. H., Jr., Wong, L., Masters, T., Mckee, D., Anderson, F., Lo, J., Reitz, D. ‘*New Results In Computer Aided Diagnosis (CAD) of Breast Cancer Using a Recently Developed SVM/GRNN Oracle Hybrid*’, Intelligent Engineering Systems Through Artificial Neural Networks (**ANNIE 2004**), pp 779-784, Vol. 14, ASME Press, New York, 2004. [\[pdf\]](#)

[2] Land, W. H., Jr., Mckee, D., Reitz, D. ‘*Teaching Computational Intelligence for Engineers in the 21st Century via Distance Learning*’, SUNY Conference on Instructional Technology, **CIT 2005**, Binghamton, NY, 23-26 May, 2005. [\[pdf\]](#)

Professional Training

Foundations of Leadership (2008)

Project Management (2007)

C++ Programming (2006)

DOORS Requirements Management System (2006)

Rockwell Collins Technical Consistent Process – Systems Engineering (2006)

Rockwell Collins Technical Consistent Process – Software Engineering (2006)

Capability Maturity Model Integration (CMMI) Training (2005)

Iconix IOS Maintenance (Software) (2000)

Opinicus Electric Control Loading System Calibration / Setup / Test (2000)

Opinicus REALFEEL Generic Models - Tuning Statics and Dynamics (2000)

VMIC I/O Tools, System Hardware, & I/O Expansion (2000)

Simphonics Sound & Communication System (2000)

Flight and Ground Vehicle Simulation Update, Binghamton University (1999)

CAE Full Flight Simulator 9 Week Maintenance Course (1998)

Intermediate and Advanced C Programming (1998)

Mastering Microsoft Visual Basic 5.0 Fundamentals (1998)

Introductory, Intermediate, and Advanced FoxPro (1996, 1997)