Hamid M. Azzo

Office   **Home**
L-3 Communications / Integration Systems   7516 Trevino Dr.
Greenville, TX, 75403   Plano, TX, 75025
(903) 457 6460   M (972) 900-0420
A.H.Azzo@L-3Com.com   hazzo@tx.rr.com

SUMMARY OF QUALIFICATIONS:

- 20 years of experience in software, algorithm, and advanced technology development.

- 8 years of experience providing training and workshops in the latest software technologies and languages to programmers, analysts, software engineers, and technical managers from fortune 500 companies (EDS, Alcatel, ExxonMobil…)

-
- Over 9 years of hands-on experience in the defense industry implementing Service Oriented Architecture (SOA) solutions using C# and the .NET platform.

- Hands-on experience leading all stages of Enterprise development efforts, including requirements definition, design, architecture, testing, and support.

- Adept at developing effective solutions in architecting and developing Soft Switching and Provisioning software for ATM switches

- Demonstrated capacity to innovate and implement Numerical Algorithms.

- Technical expertise in broad range of engineering disciplines, including:
    - Algorithms Development: Numerical methods for optimization, with and without constraints
    - Simulation: Numerical simulation of physical systems including aircraft.
    - Estimation theory: linear and nonlinear Kalman filters
    - Guidance & Control: Classical, state-space, optimal and robust control

- Demonstrated capabilities to conduct research, prepare white papers, and present technical subjects.

- Innovative, self-motivated, team player with outstanding oral and written communication skills.

EDUCATION:

Ph.D. in Electrical Engineering, Wichita State University, Wichita, Kansas, 1994
Major Field: Control Systems

Dissertation: "Mixed $\mathcal{H}_2/\mathcal{H}_\infty$ *Control of Two-Time Scale Systems*"

MS. *in Electrical Engineering* , Wichita State University, Wichita, Kansas, 1990
Project: "Relation *between Pole Assignment and Optimal Output Feedback*".

BSEE, Wichita State University, Wichita, Kansas 1988

PUBLICATIONS

G. L. Fudge, A. H. Azzo, and F. A. Boyle, "A Reconfigurable Direct RF receiver with Jitter Analysis and Applications,". *IEEE on Circuits and Systems,* vol. 60, no. 7, pp.1702 -1711, 2013.

A. H. Azzo and M. E. Sawan, "Exact-Slow Fast Decomposition of the $\mathcal{H}_\infty$ Filtering Riccati Equation of Singularly Perturbed Systems," in proc. of the American Control Conference, pp.2224-2225, vol.2, Baltimore, MD, June 1994.

A H. Azzo and W. L. Stout, and M. E. Sawan, " $\mathcal{H}_\infty$ Filtering of Two-Time-Scale Systems," in proc. of the American Control Conference, pp. 2389 -2390, vol.3, Baltimore, MD, June 1994.

A. H. Azzo and M. E. Sawan, " $\mathcal{H}_2$ Properties of $\mathcal{H}_\infty$ Central Compensators of Singularly Perturbed Systems", in proc. of the 33rd IEEE Conference on Decision and Control, pp.1712-1717, vol.2, Lake Buena Vista, FL, Dec. 1994.

A. H. Azzo and M. E. Sawan, "Nonlinear Distortion Attenuation Using $\mathcal{H}_\infty$ Techniques," in proc. 35th IEEE Midwest Symposium on Circuits and Systems, pp.1065-1068, vol.2,Aug 1992.

A. H. Azzo and M. E. Sawan, "Exact-Slow Fast Decomposition of the $\mathcal{H}_\infty$ Control Riccati Equation of Singularly Perturbed Systems," in proc. 31th Annual Allerton Conference on Communication, Control, and Computing, Urbana-Champaign, IL, Oct 1993.

A. H. Azzo and M. E. Sawan, "Output Feedback Stabilization of Uncertain Linear Systems," in proc. 34th IEEE Midwest Symposium on Circuits and Systems, pp.471-473, vol.1, Monterey, CA, May 1991.

A. H. Azzo and M. E. Sawan "Relation between Pole Assignment and Optimal Output Feedback," in proc. 33rd IEEE Midwest Symposium on Circuits and Systems, pp.47-49, vol.1 Calgary, Canada, Aug. 1990.

COMPUTER SKILLS:

Platforms	**:**	Windows 8/7/ XP/ 2000/ NT /98/95, UNIX (Solaris), Linux, VM/370.
Languages	**:**	C#(4 yrs), C, C++ (11 yrs), VB, Java, XML, Object Pascal, FORTRAN
Databases	**:**	MS SQL Server 6.5/7/2000, Oracle 7.0/8i, Informix, Versant, and Access.
Development **:** *Toolkits*		.Net Framework 3.5/2.0, Visual Studio 2008/2005,Win16 SDK, Win32 SDK, MFC Library 5.0, Visual Component Library (VCL), MSVC++1.52/16bits, MSVC++5.0/32bits, Visual Basic 5.0/6.0, Power Builder 6.x, Delphi 4.0/5.0/6 COM/DCOM, MTS 2.0.
Packages	**:**	MS. Office Suite, MATLAB, MathCAD, and Crystal Reports.

EXPERIENCE :

*Nov. 2008 - **Principal Multi-Disciplines Engineer***
Current   L3 Communications/Integrated Systems, Greenville, Texas
- Led the Jitter analysis and simulation efforts of the A2I program that culminated in
- Designing a fast time domain jitter simulation algorithm
- Deriving an analytical solution to the SNR for NYFR using different mathematical methods.
- Showing experimentally how NYFR's jitter bandwidth follows a stairstep pattern.

*July 2005 - **Sr. Software Engineer II***
Nov. 2008   ***Tools: Visual Studio 2005/2008, .Net Framework 2.0/3.5, Subversion, Tortoise, SVN, Log4Net, NUnit, Enterprise Architect, DOORS, Ms.Visio, Ms. Visual Source Safe.***
                     Platform: Windows XP Professional
- Participated in the architecture of the Data Management System (DMS). It is a distributed application based on Service Oriented Architecture (SOA). DMS is a maritime mission system equipped to counter modern threats faced in maritime surveillance and patrol aircraft. It ensures total situational awareness of the complete tactical environment for the entire crew.
- Performed analysis, design, development, and integration of the Electronic Surveillance Measure (ESM) subsystem of the DMS on the Korea Lot II program.
- Performed analysis, design, development, and integration of the GeoLocation Algorithm. Implemented L-3/IS' proprietary Matrix library.
- Prepared the Software Requirement Specification (SRS) for the ESM subsystem.
- Prepared training documents covering the entire DMS and few subsystems. Some of the covered functionalities are: Acoustic, Comms, Radar, ESM, EO/IR, MAD, Video, and Image Analysis.
- Prepared the concept of operation and the Technical architecture for a $900 million proposal. Also, wrote the Command and Control section of the overall proposal.
- Designed and implemented a war game scenario involving naval, army, and air forces using Stage 5.2.

*May 2003 - **Consultant/Technical Trainer***
July 2005   Objects Academy, Plano, Texas
- Conducts nationwide consulting and training in VB, Delphi, C, C#, C++, VC++ 6.0, Object Oriented Analysis and Design.

*Sept 2002 - **Sr. Software Engineer***
May   2003   Choice Point (Insurity), Richardson, Texas
                     Tools: Java, Apache, Tomcat 3.x, ECLIPSE, SQL 2000,Data Junction
                     Platform: Windows NT 4.0
- Performed designs, implementations and maintenance of web based applications for the Insurance industry.

- Created data mapping templates (100's) to automate mapping insurance related data from all types of files format into WINS' specific files.

Sept. 2000 - *Architect/ Software Engineer*
Sept 2002   Siemens Subscriber Networks (Efficient Networks), Dallas, Texas
     Tools: C++, Java, CORBA (IONA), Exceed 6.0, Versant 6.1
     Platform: Sun Solaris, Windows NT 4.0
- Performed designs, developments and modifications of soft switching and provisioning software, called APM, for the telecom industry.
- Developed a feature software package for APM called "Cell Count " that permitted WCOM, for the first time, to monitor and compute the amount of data transmitted between point A and point B along its network of ATM switches.

Nov. 1998 - *Sr. Developer*
Oct. 2000   InteleMedia, Dallas, Texas.
- Developed/Enhanced an in house application named, InteleManager, using Delphi 3.0, ODBC Express, and MS SQL Server 6.5. This application encompasses all aspects of business in the company ranging from assigning tasks and projects to billing and accounting. Virtually, every employee has to log on to this application every morning.
- Fixed the bugs and enhanced the functionality of version 1.0 to include several filtering options, and flexible searching capabilities.
- Extended the application's capabilities to track Programs, Rates and commissions and released version 2.0.

June 1998 - *Sr. Consultant*
Sept. 1998   USWeb, Dallas, Texas.
- Enhanced an existing Medical application using VB 5.0 and Crystal Reports. Developed several forms that allow the user to group the participating hospitals based on state, district, or region criteria. Modified the existing database, which is implemented in Access, to accommodate the new changes. Designed several reports to display data about any group that is just created.
- Participated in the architecture and implementation of a MultiTier Accounting application using Delphi 4.0 Client/Server Suite with SQL Server 6.5. The architecture was based on using MTS 2.0 and Borland MIDAS technology. Implemented most of the business objects on both the client and server side.

June 1997 - *Sr. Consultant*
May 1998   MCI (AMERISS), Dallas, Texas.
- Developed several applications, as part of the ITIS project at MCI, using Delphi 3.0 Client/Server as user interface tool with Oracle 7.0 at the backend.
- My contribution to the development process of each tool included taking user specifications; perform analysis/design, development, testing, deployment, and maintenance.
  Developed Applications
- *Pyramid Builder* allows a manger to build a career path (Pyramid) for an employee in a setting similar to the Windows Explorer. A pyramid is

composed of Tiers that consists of levels, which in turn include courses a student must take. The tool allows creating new pyramids, or modifying existing ones through the ability to add, delete, renumber and drag and drop any tier, level or course. Any modification in the TreeView is reflected immediately in memory and the database so previewing the pyramid reflects the latest changes instantly

- *Report Generator* displays a long list of reports needed by different MCI training organizations. These reports are grouped into financial, statistical, and enrollment groups. With each report requiring 4 different forms, the application included about 100 different forms that are loaded dynamically on as needed basis. This task was implemented by creating several classes range from generic report to report List and creative use of polymorphism. In addition to the ability of printing and saving the reports, this tool allows exporting data to Text, .CSV, and Excel format.

- *Financial Manager* keeps track of vendors, Purchase Orders, and Invoices. It is utilized by several MCI training organizations that share the same database while keeps the financial information of each organization totally secured. In addition to the ability to add, delete, modify or search over a vendor, PO, or an Invoice; it provides reporting capability for 10 different reports.

May 1995 - *June 1997*	**Sr. Consultant/ Instructor** High Technologies, Dallas, Texas.

- Provides training and practical workshop experience in Delphi, Visual C++ (MFC),Visual Basic, C, C++ Object Oriented Programming to programmers, analysts, software engineers, and technical managers from fortune 500 companies.
- Designed and developed several Delphi courses that range from Introduction to specialized topics such as Advanced for Applications Developers, Advanced for Components Developers, and Object Pascal.
- Developed the curriculum of the C, Advance C, and C++ Object Oriented Programming, and Windows Programming using MFC courses.
- Each course provides a thorough, practical knowledge of the subject matter and is structured around providing the participant's detailed lectures combined with extensive hands-on practical exercises.

Aug. 1991 - *May 1994*	**Research Assistant /Teaching Assistant** Electrical Engineering Department, Wichita, KS

- Coordinated, taught and developed project assignments for the Computing Engineering Fundamental course utilizing the **C/C++** programming languages. Graded and assisted students with the projects.
- Designed, tested, and implemented an algorithm for solving a set of seven highly coupled Nonlinear Matrix Differential Equations. The algorithm encompasses the features of a "Quasi Newton" approach and a conjugate direction method. The approach required detailed knowledge of Optimization Theory and Numerical Methods. MatLab was used. Numerous practical systems based on aircraft models were tested using the program.

PROFESSIONAL ACTIVITIES:

- Published 7 papers in internationally recognized technical Conferences.
- Reviewed papers for Conferences: The American Control Conference, and the 33rd Conference on Decision and Control.
- Presented numerous papers at these conferences

REFERENCES AVAILABLE ON REQUEST