

Arthur D. LeDuc, BSc

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SENIOR SOFTWARE ENGINEER

SUMMARY

Extremely knowledgeable and self-motivated Senior Software Engineer with an extensive record of leading the full life cycle development of robust and highly efficient applications.

“Seeking work with forward thinking, state of the art organizations where I can help them achieve their goals by using my skills as a software engineer.”

SKILLSET

- General
 - User Interface (UI) Design
 - Multi-User Application
 - System Architecture
 - Hardware and Software Debug
 - Hardware and Software Test
 - Object-Oriented Design (OOD/OOP)
 - Video Analysis
 - Relational Databases
 - Database design
 - Help systems
 - Documentation
 - Multi-threaded Design
 - Embedded/Firmware Development
 - Real-time data acquisition
 - Real-time programming
 - Digital Signal Processing (DSP)
 - Windows driver development
- Programming Languages
 - C, C++, Assembler, C#, Pascal, Delphi, LabView, Java, Visual Basic, FoxPro, Dbase, Clipper, PHP, Ruby
- Operating Systems
 - All Windows Versions, DOS, Linux
- Technologies
 - SQL, DAO, ODBC, STL, ATL, MFC, HTML, CSS, .NET, Windows Media, WPS, COM, ActiveX, Custom Controls, IIS
- Architectures / Busses
 - USB, PCI, ISA, I2C, SPI, OBD, IEEE1394, IEEE488, RS232, CPS
- Processors
 - Intel 8051, 8088, Pentium class processors
 - Motorola 68000
 - Microchip PIC processors
 - Analog Devices Sharc
- Tools
 - Visual Studio, WinDbg, SoftICE Suite, Eclipse, Project, Word, Excel, Dreamweaver, Flash, Photoshop, SmartDraw, Source Safe, CVS, GIT

PROFESSIONAL EXPERIENCE

FREELANCE / CONTRACT SOFTWARE DEVELOPMENT

- Windows 7 Driver Migration - Migrate an existing 32-bit driver from WDM to 32/64-bit WDF. The driver was to support Windows 2000, XP, and Windows 7 operating systems from a single code base. It also was required to respond in real time, running predictably to 1 milli-second while performing extensive I/O operations. Working with

engineers at the client site developed new testing methods. These methods brought out some inconsistencies in the hardware that needed addressing.

- PIC18 Embedded Project - Electronic Ignition Module for a M14P 9 Cylinder Aircraft Engine. The project developed with the original PIC18 processor in Assembly. Using the original PIC18 processor allowed the hardware design to be unchanged.

MED ASSOCIATES, INC. - Georgia / CATAMOUNT R&D, INC. - St. Albans, VT

Senior Software Engineer

1997-Aug 2010

- Rejoined the leading manufacturer of over 400 products for research, pharmaceutical, and teaching facilities to help design, and develop real-time data acquisition applications and related firmware
- Developed product design specifications
- Developed drivers and APIs for all Windows versions supporting ISA, PCI, USB, and Firewire
- Designed a general USB interface to support all future USB products
- Leveraged strong understanding of hardware to write efficient, highly integrated software
- Spearheaded the migration of an entire product line from DOS to Windows
- Programmed and tested software, added or enhanced features and contributed to design specifications.
- Supervised, guided, and reviewed work of junior engineers.
- Developed optimized algorithms that enabled the creation of applications despite known limitations of existing computer systems
- Created applications that utilize multiple embedded processors and high-speed chart controls to acquire, analyze, store, process, and display a high volume of real-time data.
- Developed algorithms to detect and track motion in a video stream.
- Developed an interface to ADSP-21060-based DSP board and Analog Devices development environment
- Developed a physiological data acquisition software application acquiring EEG, ECG, EKG, Photoplethysmograph, SPO2, Skin Conductance, and Skin Temperature

Previously employed with

- Saturn Solutions, Inc. as Information Systems Manager (1996-1997)
- Med Associates, Inc. as Software Engineer (1995-1996)
- EQ2 as Programmer Analyst II (1993-1995)
- Vermont Microsystems as Engineering Technician (1982-1993).

EDUCATION

AMERICAN SENTINEL UNIVERSITY, Birmingham, AL

Bachelor of Science, Computer Science

GPA 4.0

NEW HAMPSHIRE VOCATIONAL TECHNICAL COLLEGE, Berlin, NH

Associates in Applied Science - Industrial Electronics

GPA 3.67

AFFILIATIONS

IEEE Society

IEEE Computer Society