

**James Daugherty**  
**JIMDGROUP.com**  
*Software, Firmware,  
Development, Project Management*

## **Curriculum Vitae**

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### **EXECUTIVE SUMMARY:**

**I am an experienced software engineer with over 20+ years of development experience in various industries, including Sony, JVC, Cal Tech, Stanford, US Military, Costco/Price Club, and Johns Hopkins. My expertise includes PCB layout and design using Altium, Kicad, and Eagle, as well as embedded development software such as Keil ARM, IAR EWARM, and Eclipse-based systems. Additionally, I am well-versed in Apple IOS development, SWIFT, Windows Xamarin IOS/Android, Windows Visual C#, and Python. My experience also includes working with various equipment, protocols, and scientific engineering solutions such as Matlab/Simulink.**

**I am familiar with a variety of hardware such as ST Micro Dialog/Renesas, Cypress/Infineon, NXP, and Microchip.**

### **EXPERIENCE:**

**February, 2020 – Present San Diego, CA**

**I have worked for the Department of Defense, Cal Tech, Stanford, SONY, Price Club (now COSTCO) and JVC.**

**Develop Embedded Arm (32bit) MCU, with Bluetooth and other related technology. Develop Custom Computer systems for special technical requirement.**

**Development Systems: Apple IOS (Bluetooth), Arm 32 Bit Embedded Development (St Micro, NXP, Cypress (Infineon), Generic ARM chips), Xamarin**

**Compilers: IAR, Keil, Cypress (Infineon), Eclipse based Compilers, Xamarin**

**Protocols: i2c, i2s, CAN, RS422, RS485, UART, SPI, ADC, DAC, PWM**

**PCB Board Software: Altium 22+, KiCad 7+**

**Operating systems: Yocto (Linux), Windows 7-11, Embedded Linux, Free RTOS, Bare Metal (No Operating System)**

**2022-Present (Delta Positive Slope)**

**Develop a control system for Capstone 35K Generators (IOS), Modbus**

**Completed design of three phase network to integrate with Solar and CNG Gas Turbine generators.**

**Design control system (PCB) and Software control system.**

## **2017 (Client Name Withheld- Non Disclosure)**

Develop Linux based Video System used for hotel advertisement management of screens. Prototype was developed.

## **2016 (REMCOR)**

Automotive design, Bluetooth controlled car access for subprime auto loan banking institution.  
Technologies Implemented: ARM(32bit), CAN, Bluetooth 4.1, Relays (12V)

## **2014 (Expert Witness- related to lawsuit)**

Expert Witness, Court case that overturned the RED LIGHT CAMERAS. I calculated that the yellow light had been set at 3 seconds instead of the standard 4 seconds for traffic light at similar intersections. (Using video camera) Lockheed Martin had requested that the yellow lights should be changed to three seconds to capture more red light violators.

## **2012 (Platinum Simulators)**

Flight Simulator Control Board. 64 Buttons with ADC. 56 Buttons with 4 Quadrature Encoders. RS-485 connectors with power usage of 20 mA. Replaced a \$3000 Xilinx Board. Interrupt driven software design with bare metal software design to maximize speed. Technologies Implemented: ARM(32bit), RS485, Quadrature Encoder

## **2008 (Cal Tech, Stanford University)**

Development and Implementation of Earth Quake sensor QCN Quake Catcher Network.  
(quakecatcher.net) Installers for Windows and Apple Macintosh System (driver)

## **2003-2005 San Diego (Republican Party of San Diego County)**

Designed, created and implemented a database and GIS mapping systems for political precinct operations for San Diego County. Database included over 1.4 million registered voters and created reports of over 80,000 pages.

## **10/98 - 12/99 Escondido, CA Escondido Charter High Schools - Consultant**

Designed, created and implemented the digital video technology curriculum at largest Charter High School in California. Curriculum is now WASC accreted.

## **3/95 - 3/99 San Diego Sony Electronics**

### **- Project Lead (Manager) / Software Engineer**

Managed the introduction of the following Sony models; 7611 (4X SCSI CD-ROM), 540 (2.6GB MO), 920(2X CD-R), 9211((External Version of 920), 940 (2XW-4XR CDR), 9411 (External Version of 940). Included FCC/CE testing, shock & vibration testing, bundled software verification and testing, interfacing with Corel (CD Creator), negotiating software revisions, scheduling software introductions. Production related duties included overseeing production line testing, specifications and procedures.

- Edited User and Service manuals for the above models, wrote addendums to correct errors in previous manuals. Supervised a project team of three engineering positions, one manual translator, one drafter and one test technician. These manuals were then translated in French, German and Spanish.
- Project Evaluation Team for Player Recorder Project, (PowerPC 40X Model) I evaluated and developed the software requirements for the use of the (PowerPC 40X/Cold Fire) for compilers, IDE, RTOS, debuggers, and simulators.
- Wrote custom diagnostic installation program for 4X CD ROM (760E) (200K units Sold).
- Maintained CD-ROM Drivers for CD-ROM and CD-R models.
- Designed and implemented a Software Lab that tested software and drivers for performance and compatibility for the following operating systems; Macintosh 68000, Macintosh PPC, DOS, Windows

3.11, Windows 95, Windows NT (v3.51, 4.0). The procedure that I started is now used by other departments to test bundled software.

**12/92 to 1/94 San Diego, CA - Phoenix Graphics,**

**Lead Software Engineer (Borland C/C++, MASM 5.1)**

Phoenix Graphics is an OEM that supplies high-resolution adapters for the DOS notebook market. I developed a software utility for Windows 3.1 that automatically configures the system.ini for the proper installation of the Phoenix Graphics Video Processor. I customized the source code of the Video BIOS to properly connect the VideoPak-1024 with Toshiba notebooks. I prepared the custom installation drivers, instruction manuals and other testing utilities. I developed hardware and software compatibility testing parameters and procedures.

**10/91 to 11/92 San Diego, CA JVC(Japan) / ATIS Assman (Germany) / HLA3 (USA)**

**Software Engineer (Franklin C (8051), Borland C/C++)**

This was a development project for the production of a revolutionary digital 16-gigabyte SCSI SVHS tape drive for JVC(Japan) and ATIS Assman (Germany). My controller software was included in the patents for this device. I wrote the embedded host software for a digital tape drive. This host software mimicked the interface between the servo processor software that I was in charge of writing and the main processor that was responsibility of other programmers. In order to complete my project on time I created this host software to test my servo controller functions. As soon as a working main processor program was available I worked with two other programmers to integrate the entire system into one working system. After the completion of this project I modified the host program for use as a diagnostic tool for service technicians. I developed hardware and software compatibility testing parameters and procedures. I was responsible for evaluation of SCSI interface cards with extensive experienced with Adaptec SCSI controllers and device drivers in DOS or Windows.

**San Diego**

**Head of Software Development (Borland C/C++, MASM 5.1)**

ACIS developed an Imaging capture and printing system for the Price Club warehouse stores. I designed and programmed the interface for a serial controlled strobe light that is used to take ID Card pictures. This allowed my software to control the timing between each field of a video frame (1/60th of a second). I integrated an AS/400 computer with an ID card system for the Price Club warehouse stores. You can see the product working now at the Price Clubs all across the United States.

**EDUCATION:**

San Diego State University, San Diego, CA BS: Accounting 1988

SONY, Management Development Training-Industrial Design

SONY, Management Development Training-Project Planning

**SKILLS:**

**Programming**

**Languages**

Assembly Language (Various Architectures), 'C', 'C++', HTML, PHP, Python  
Java Script, Misc. scripting languages,

**Databases**

MySQL, Mongo DB, Couchbase

**Equipmen**

**t**

Logic analyzer, MSO, In-circuit Emulation, Oscilloscope, Embedded System Equipment

**Hourly Rate for Deposition and for trial testimony.**

**\$200 per hour 4 Hour Minimum per day.**

**References available upon request.**